

THE

Desert

M A G A Z I N E



JUNE, 1945

25 CENTS



EL BURRITO

By HELEN L. VOGEL
San Diego, California

Long-eared, swing-tailed mud-coat varmint,
This yere's not where I'm a'aimin'.
You know this pile 'aint no gold mint!
I 'aint diggin' here nor stayin'.

No-brained, sloe-eyed, flea-bit crittur,
'Caint you see this takes some brainin'?
Squat yore stubborn rump an' sit yere
Whilst I hunt an' do the strainin'.

Horn-toed, nip-mouthed, brayin' jackass!
Hey—hold on! Those rocks yore loosin'!
Shift yore hide. Jus' move an' bypass.
Gol—here's gold without no sluicin'.

Strip my hide an' stop my honin'.
Cute-eared, smart-tailed, grey coat darlin',
Four legged wonder quit yore groanin'.
You've growed wings to suit a starlin'.

THE WIND

By IDA SMITH
Prescott, Arizona

There is quiet out on the desert.
The warm sun sinks in the west.
The wind whispers low through the sage brush,
A message of peace and rest.
It writes on the clean, white sand dunes;
It talks in the swaying trees.
Its sermons for aeons have spoken,
In wild storms, and soft summer breeze.
How I wish I could read that message,
That sweeps o'er desert and fen;
That for ages and ages has tried to speak
To the hearts and souls of men.

Our Son--Jim

By IVAN MARDIS
Tucson, Arizona

I stumbled on this sunken grave
Out on the desert wild—
Oh Merciful God—what a desolate place
To bury a little child!
The place was marked with native stone,
A tall one at the head!
The artifacts were rusted toys—
A tricycle and a sled.
A jar now purpled by the sun
Held epitaph time-yellowed, torn and dim—
In faded ink I read the words
"Age Three—Our Son," and "Jim."
This little lad helped play the role—
Though much too soon was laid to rest!
It took sorrow, pain, and desert graves
To write the epic of the West.

OLD-TIMER

By MARGARET GRAHAME COLLINS
Carlsbad, California

The day will come when I shall see no more
The lift of mesa to the windy sky,
Nor sagebrush spreading on the desert floor,
Nor mountains lift red battlements on high.
The time will come when I shall ride no more;
Shall hear no saddle-leather's friendly creak;
Nor feel the storm and sunlight as before;
Nor see the pale moon rise or the dawn break.
For then I shall be riding far away—
Down many a ghostly trail on shadowy hill.
And I shall ride with comrades old and gay—
With Billy the Kid, Kit Carson, Buffalo Bill,
And Hickock, Custer, Crockett and the rest.
Of all my rides, that one will be the best.

SERMONS

By CATHERINE M. HENSON
Flagstaff, Arizona

There are sermons in the yucca
Silent sermons in the dunes,
Where the undulating sand mounds
Almost sing their hymnal tunes.
There are sermons in the silhouettes
That frame a glowing sky,
And the hardy men who try
In the rugged saw-tooth mountains
Their passing years at seeking
Minerals held in rock and sand—
Silent sermons ever waiting
To explorers of this land.
In the quiet and the vastness
Petty thoughts of men grow broad,
For the desert has its altars
Resting at the Feet of God.

SPECTERS OF THE DESERT

By KATHARINE BUOY
Portland, Oregon

The purple twilight deepens suddenly.
The desert stars illumine the trackless waste
As dusk reveals a ghostly mystery,
And with a strange disquiet I am faced;
For out across the sandy wilderness
A caravan of camels move in sight,
Their drifting pace seems almost motionless—
Dim mirage—vague specters of the night.
Long, long ago these aliens trod the sand
And ambled down beside the Salton Sea.
Then one by one they vanished from the land—
But famous still wherever they may be . . .
Before my dazed and unbelieving eyes
Move creatures from the past in phantom
guise . . .

DESERT Close-Ups

• When you start out to look for treasure in your favorite hunting ground, you may be the type to use a forked-stick—but not Walter Ford. Next month, he'll tell DESERT readers how the scientists do it. "Doodlebug" doesn't sound scientific, but that's what the mining and geology fraternity have dubbed the device which locates below-the-surface minerals by means of electrical currents and radio waves. And they don't call it "treasure hunting" or "witching," but geophysical exploration.

• Georgia B. Redfield makes her first appearance in DESERT'S pages this month as author of the story about William "Uncle Kit" Carson, nephew of the famous scout. She lives in Roswell, New Mexico, where she has written for local newspapers for 25 years. She has contributed to *Sentinel* and *New Mexico* magazines the past 10 years and has written many songs, stories and poems, and descriptive articles.

• Waxen beauty of the saguaro blossoms, on this month's cover, soon will mature into the luscious red tunas, harvested each July by the Papago Indians of southern Arizona. Setting up camp in the cactus forest, natives hook the fruit off with long sticks, letting it fall onto clean canvas. Youngsters eat many of the ripest immediately, before the women can pour them into large earthen cooking pots to boil, later to make syrup, fruit paste and jam, and from the finely ground seeds, the wafer-like bread, piki.

• Clee Woods, New Mexico writer, who with his wife Betty explores and writes about the Southwest, next month will tell about his pilgrimage to the cave of See-a-huh, the great miracle performing god of the Pima and Papago Indians in the faraway days when these two tribes were one. Story will be accompanied by a map showing location of the hidden cave in the rugged Baboquivari mountains southwest of Tucson, Arizona.

• Even if you don't want to study, you are going to enjoy the geology lesson Jerry Laudermilk has prepared for you next month. The subject is obsidian. But the way Jerry tells it—combined with a bit of Indian excavation in Arizona, a little rockhound lore, a trip into Aztec land, a touch of Greek history, and some chemistry just to top it off—you won't know you've been to a geology class.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

Black Ants have made a mountain
Of chaff from filaree;
At least, it is a mountain,
As far as they can see.



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Number 8

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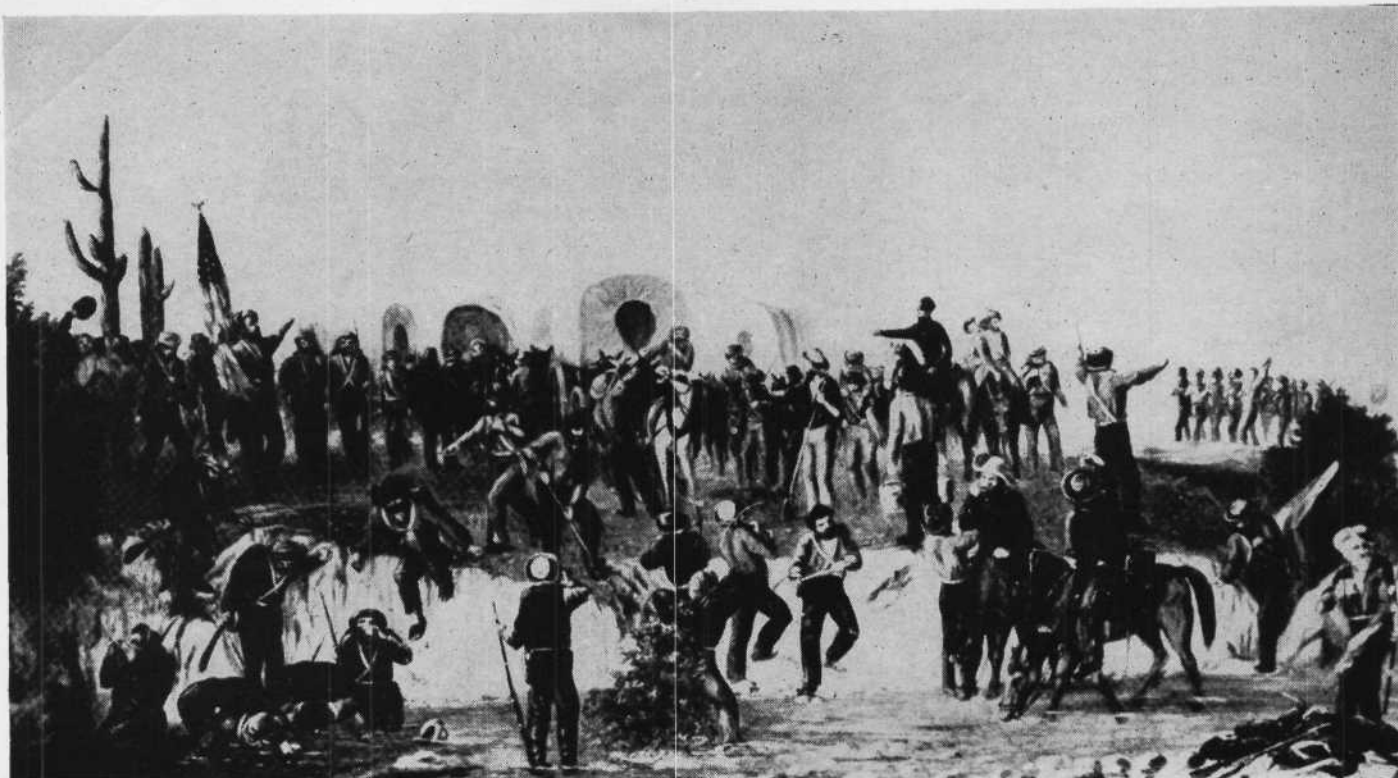
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This painting of the Mormons reaching a stream on their march across Arizona, was painted by George M. Ottinger and appeared in Golder's "March of the Mormon Battalion."

Trek of the Mormon Battalion

By SHERMAN BAKER

California had been seized and occupied by troops of the American army many days before Cooke's Dragoons, known as the Mormon Battalion, reached the Golden state, but this fact in no way detracts from the credit and honor due the ragged little army which broke the first wagon trail through a rugged and hostile desert from Santa Fe to San Diego. Here is the story of one of the most amazing infantry marches in all history.

THE dawn-wind was bitterly cold when reveille was sounded. Colonel Cooke, already up and scanning the horizon, talked to the night-watch shivering in their ragged uniforms. One of the guides came up.

"A march of 15 miles will take us to the deserted ranch of San Bernardino, Colonel. Water is there, and wood, and the hills are full of deer and antelope. We can rest a week . . ."

Colonel Philip St. George Cooke, of the First Dragoons, Regular Army, drew himself up. His already grizzled beard bristled, his deep-set, earnest eyes blazed. The nostrils of his jutting Roman nose flared.

"Rest? Nonsense, Weaver! We'll keep on! My orders are to take these wagons to the General in California as quickly as possible. We'll rest when—and if—we get to California!"

Pauline Weaver, the half-breed Arizona guide, grunted. It meant nothing to him.

He was away from the Battalion most of the time, scouting out the route, hunting, trapping. He kept his own belly full, at any rate. Let these Mormons starve.

The men were coming out of their low tents—tents held up by their muskets, tent-poles long ago dispensed with to save weight. Swinging their arms, running about to get warm, they scattered to look for the scant firewood the high Arizona prairie afforded. Then when the fires flickered in the half-light, there came the welcome smell of cooking meat. The worn-out mules were hitched up to the battered wagons as a little of the steaming stew was doled out to each man.

The sun appeared from behind the high mountains in the east, and it was light. Soon the air became warm, then hot, and plodding along in this desperate haste the men took off their torn coats. Another day of hard marching in the trackless wilderness of the great American Southwest be-

gan. The Brethren were on their way to California . . .

The Mormon Battalion was organized soon after the beginning of the Mexican War in 1846. Driven from Missouri, hounded from community to community, denied admittance to Arkansas, the Church of Jesus Christ of Latter-day Saints at last made the decision to emigrate to the Far West. The government, killing two birds with one stone, decided to enlist some of the Mormons in the army, and march them to California, where they wanted to go, and thus at the same time both capture and colonize the coveted lands.

General Kearny was sent to wrest California from the Mexicans. Hurrying along with a small detachment of Dragoons, he appointed Cooke as commander of the Mormon Battalion. Cooke's orders were to bring through the wagons—to open the first wagon road through the Southwest to California.

Captain James Allen, of the First Dragoons, on June 19, 1846, had commenced the enlistment of the Mormons. At the Mormon camps in Iowa territory he recruited five companies of infantry for a period of 12 months, to be paid the same as the regular infantry, and at the expiration of their enlistment to retain their arms and equipment.

The raw Battalion marched from Council Bluffs on July 21, and arrived in straggling order at Fort Leavenworth August 1. At Leavenworth, Allen became sick and remained behind. The Mormons left the post August 13. They were never rejoined by their original commander, as Allen died on the 23rd. The Mormons plodded on under a temporary commanding officer, and finally, after much difficulty arrived at Santa Fe in detachments October 9 and 10.

General Kearny had already left Santa Fe with his picked company of Dragoons, but his march was so slow, impeded as he was with a long wagon train, that the guide, Kit Carson, said it would take more than four months to reach Los Angeles. Accordingly, Kearny sent the wagons back, and assigning Philip St. George Cooke the command of the Mormons, appointed him "the task of opening a wagon road to the Pacific."

It was October 13, 1846, when the early frost was touching the high mountains around him, that Philip St. George Cooke took command of the ragged Mormons at Santa Fe.

The tired, journey-worn Mormons who

met Cooke's eye were 486 in number—men, women and children. Of these about 60 were very old men, invalids or otherwise unfit for active service. A large number of women and children had already been sent away. Cooke sent away the remaining women—all but five wives of officers and sergeants, to be "transported and provisioned at their own expense."

Weeding out most of the invalids, hurriedly buying all the supplies he could in Santa Fe, Cooke left October 19, with 397 troops, and 60 days' supplies of flour, coffee and salt, 30 days' rations of salt pork, and 20 days' supplies of soap. Creaking along beside his troops were about 26 wagons.

It was a motley army, and everything worked against its success. It had to march 1100 miles through an uncharted wilderness, hampered by a slow-moving wagon train. It was enlisted more or less by families. It was hindered by women, youths, sick men. It was raw and undrilled, though willing. Its clothing was already torn and ripped by travel. To make matters worse there was no money to pay the men, and the quartermaster's department was without funds or even good credit. And, last but not least, the mules were broken down, and there were few to buy or trade.

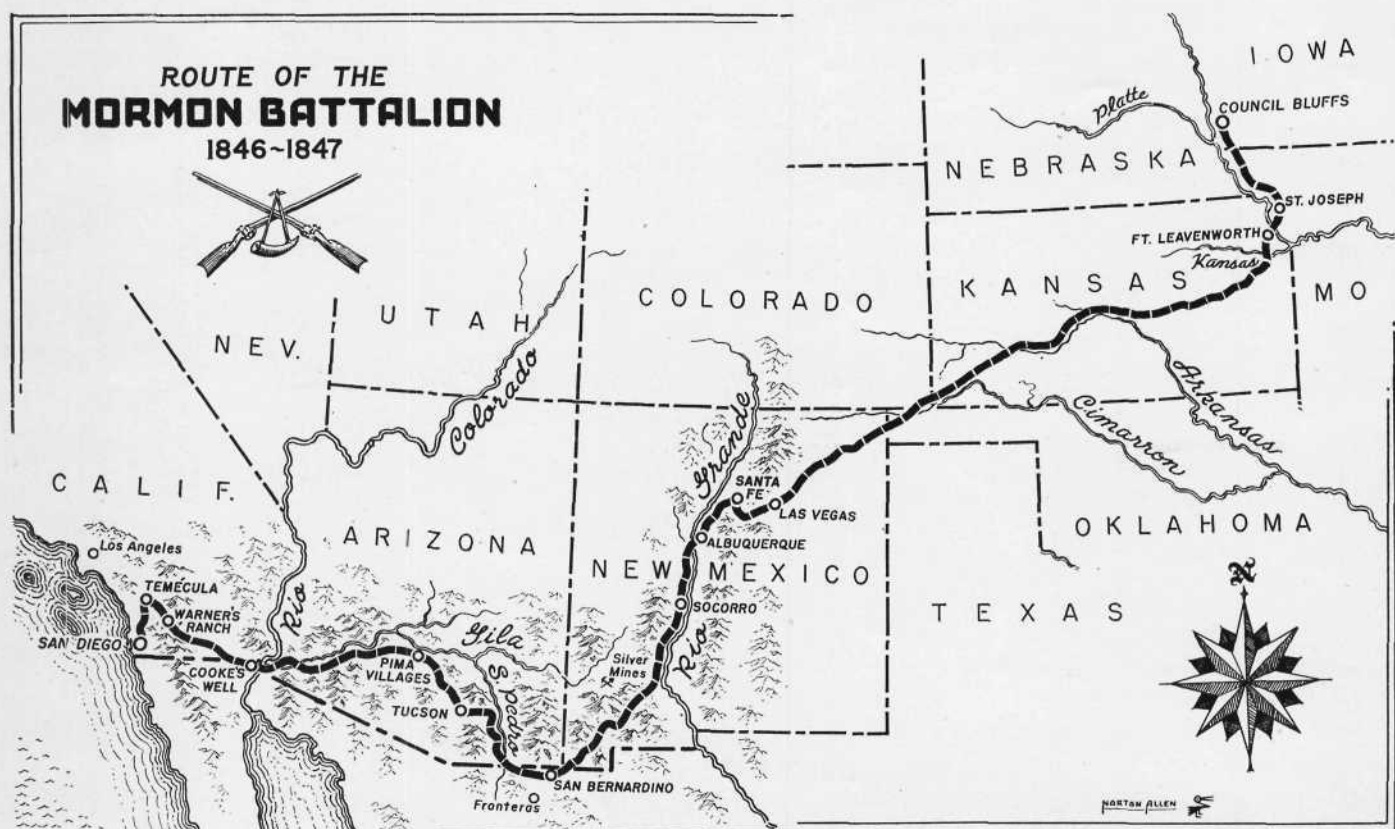
The first few days of marching were feverish. The new herd of lowing beeves and the kicking, half-wild mules were a constant worry. Many of the animals were lost before Cooke could form a regular herd guard. The already trail-weary mules gave out from time to time. The men suf-

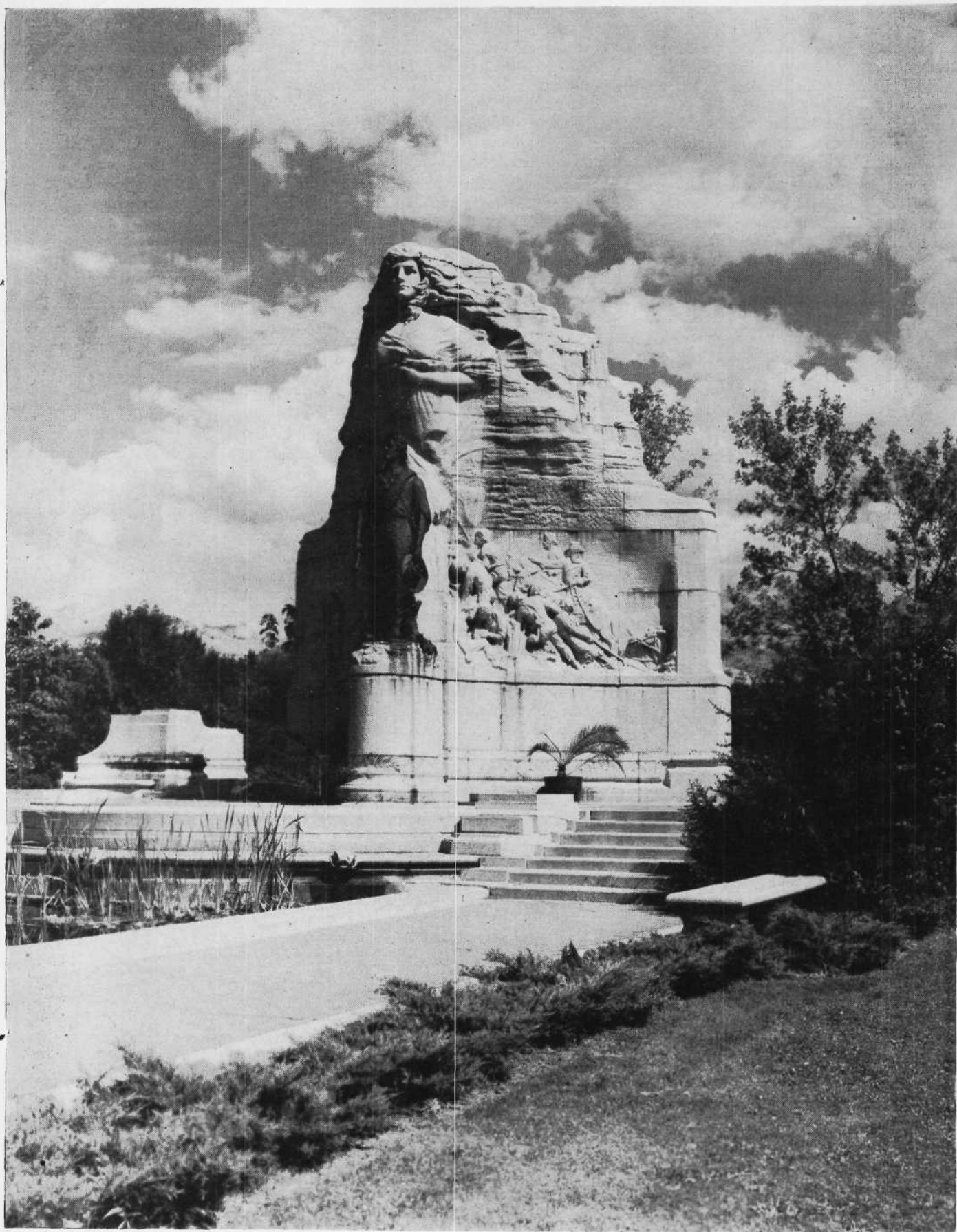
fered greatly from the heat and dust during the day, and from the cold at night. Cooke managed once in a while, by paying exorbitant prices, to exchange a few of the worst mules for better ones from friendly Indians.

The guides sent back by Kearny came into camp one by one, Pauline Weaver, Charbonneau, all of them, with the exception of Antoine Leroux, "more or less drunk." None of the guides proved of much assistance in the whole trip, and none of them knew the region to be traversed. Cooke had nothing but trouble from them. One huge man, weighing over 200 pounds, was drunk for weeks, and finally was discharged by Cooke.

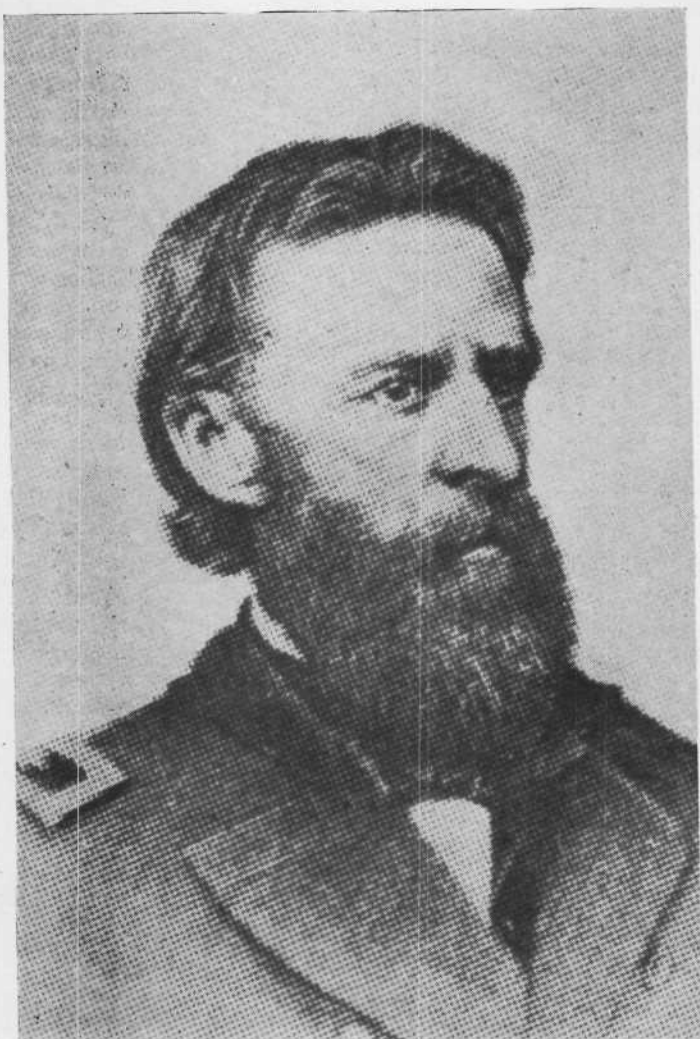
Mile after mile in the burning New Mexican desert the mules floundered. One by one they died. Soon every single mule was pulling a load—not one spare animal was available. Many of the men were sick, and riding in the wagons, and many more had to have their knapsacks and arms carried. Cooke was desperate. He was told that most of his mules could not go to California even driven loose without pulling a load.

So, on November 9, he ordered 58 of the oldest, sickest and least desirable of the men, along with some of the broken down ox teams, to return to Santa Fe. This lightened his load considerably. The next day Cooke was greatly cheered by making 15 miles. Soon they shot deer and turkeys to supplement the meager daily rations. They followed the Rio Grande, leaving it on November 13 near





Monument erected in Salt Lake City as a memorial to the Mormon Battalion. Photograph by Harry Shipler.



This old photograph of Colonel Cooke was taken some years after the trek of the Mormon Battalion, when he had been advanced to the rank of general. Photo from McClintock's "Mormon Settlement," courtesy Mulford Winsor, Arizona state historian.



General George Stoneman, who as a lieutenant was the "Admiral" of the Mormon Battalion. Photo from Farish's "History of Arizona," courtesy Mulford Winsor, Arizona state historian.

the present town of Rincon, Dona Ana county, New Mexico.

They struck the Mimbres river near the northern boundary of the present Luna county, New Mexico, on the 18th. After crossing this, their next water was the Ojo de Vaca. Here they found an old Spanish trail, leading from Janos, Chihuahua, to the old Santa Rita copper mines. The Battalion followed this trail south until convinced that its course should be toward the San Pedro river. Then they turned southwesterly through the present Whitmire pass and along Animas creek. It was here that they saw their first grizzly bears and mescal plants. "Black-tail" deer (mule deer) and antelope became plentiful.

The deserted ranch of San Bernardino was their objective at this point. But Cooke writes in his diary that it "seems to elude us like a phantom." Manuelito, the Apache chieftain, came into their camp and offered to trade mules. Through the treacherous Guadalupe pass the Battalion crept, chopping a rough road for the wagons all

the way. On December 2, 1846, the weary Mormons reached the old rancho of San Bernardino.

This was a great Spanish hacienda that had been deserted for years, and had fallen into ruins. It is near the present boundaries of New Mexico, Arizona, and Sonora, and at the time Cooke saw it, consisted of a collection of large adobe buildings, all surrounded by a high wall with regular bastions for defense. The buildings occupied about two acres. The previous Spanish owner had about 80,000 cattle, many of which were still roaming about in a wild state.

It was here that the Mormons shot their first wild oxen. It was more exciting than a buffalo hunt, and the meat supplemented their dwindling rations. These wild cattle supported the Apaches, just as the buffalo farther east supported the Plains Indians. All of the hungry men gorged themselves on the delicious fresh meat, and then they smoked a great quantity of the rest. There

were also quite a few wild horses roaming this part of the country.

On December 9 they reached the San Pedro river. The San Pedro was frozen over in many places, and the temperature was below 10 degrees Fahrenheit, with a cold northwest wind blowing every day. Along the San Pedro the Battalion had its first battle—with wild bulls. The bulls were even harder to kill than buffalo, and would run off with half a dozen musket balls in them. One bull had two balls in its heart, and two in its lungs, and with these wounds charged a man before it dropped dead. The bulls attacked the column of marching men, wounding several of the soldiers and killing a number of mules. The Battalion fired volley after volley. Fortunately for them, the bulls would charge singly or in pairs and not all together, or otherwise the story would have been different. In the excitement, Lieutenant Stoneman (later General Stoneman, Governor of California) shot himself accidentally in the hand.

In the San Pedro the men caught trout "three feet long." As they neared the place where they were to turn off from the San Pedro to Tucson, Cooke drilled his men in military maneuvers as he expected to have to attack Tucson. But his worries were needless. The Mexican commandante of the presidio of Tucson sent a special commissioner to treat with Cooke. They agreed to a sort of armistice, in which neither force would harm the other. The Mexican commander then sent another messenger saying that he could not as a man of honor agree to Cooke's terms. Cooke accordingly made preparations for action. However, another messenger came in saying that the post had been evacuated by the Mexicans.

In Tucson Cooke found the inhabitants very friendly. He bought wheat, salt and tobacco. But Cooke was still distrustful of the Mexican troops who had retreated. So he pushed a volunteer scouting party a little way toward the Mexican position. This caused the Mexican soldiers to retreat even farther. Tucson appeared to Cooke as a rather squalid little town of about 500 half-civilized people. Two conciliatory letters were sent, one to the commandante, and the other to the Governor of Sonora, Tucson and the surrounding country being at the time part of Sonora. There was a midnight alarm, when the nervous Battalion thought the Mexicans were attacking, but nothing came of it.

On December 18 the tattered army left for the Gila river. This was one of the hardest parts of the trip. There was no water for miles, and it was surprisingly hot during the day. Cooke marched in the darkness for several nights, and finally arrived at the Gila river near the present town of Florence, on December 21. During his trek from Tucson to the Gila a messenger came in from Tucson, saying that the Mexican commandante boasted that he had driven the cowardly Americans away, and that he would pursue the retreating Battalion. Needless to say, Cooke was not very much alarmed.

One of the most pleasant periods in the entire journey was the stay at the Pima villages, on the Gila. The Pima Indians were friendly, pleasant, cheerful and intelligent. The Indian villages consisted of the dwellings of about 2000 Indians, and to Cooke's eye, resembled a crowded New Orleans market — with even watermelons for sale. The stern Colonel was so delighted with the scene that he presented the Pima chief with some sheep—unknown and exotic animals to these Indians.

At this point the Gila river makes a great arc. Cooke's course was to make a chord to the arc of the river, cutting off several days' time. Christmas day, 1846, was not observed in any official way. Cooke in his journal noted that they made a day's march of 18 miles. It was hot, but cloudy and there was no water. The next day they struck the Gila again.

The deep sand and the high banks of the Gila river bottoms were serious obstacles to the Mormons. They had to cross and recross the river again and again. The water became brackish, and then quite salty. The Battalion labored on, and the march was desperately slow. Finally Cooke decided to try to float some of his heaviest supplies downstream.

Lieutenant Stoneman claimed to have had much experience in boating and rafting, and on January 1, 1847, was given command of the Mormon "navy." Two wagon bodies were lashed together end to end on dry cottonwood logs, and the seams were hastily caulked to protect the cargo from water. All the road tools, part of the rations, and some of the corn bought at the Pima villages for the mules was placed aboard. Cooke continued his march toward the Colorado while "The Admiral," as the men jocularly called him, tried to launch his ship.

The Mormon flotilla would not float, however. The heavily-laden ship would run aground at every sand-bar, and finally dug in so deeply that the Admiral could not float the cumbersome craft off again. Cooke had instructed him to bring the load down on mule-back if the navigation of the river proved too difficult and slow. But Stoneman was young and obstinate, and struggled to make his expedition a success.

In the meantime Cooke and the Battalion were too far away to send back for the supplies. So Stoneman had to cache the cargo and float down in the empty ship to the Colorado, where the "navy" served gloriously in ferrying the Battalion across. Cooke sent some of Stoneman's "sailors" under a corporal back with mules to rescue the cached cargo. But the intrepid Colonel could not wait for the supplies. He reached the Colorado on January 9—"that most useless of rivers . . . so barren, so desolate and difficult," he called it. The next day, near the present Algodones, Baja California, Mexico, he commenced the crossing. All that day, all that night, and all the next day the Battalion ferried and swam. As they were now on the main trail to California from Mexico, Cooke had hopes of military action—of meeting the retreating Mexican army from California, or of reinforcements from the south.

He marched hurriedly and camped that night, exhausted and thirsty, at the water-hole later called Cooke's Wells. This water-hole was dry. There was no certain water ahead of him for many miles, and so with an energy quickened by desperation, Cooke's men set about digging wells. Quicksand caved in and filled the holes. It was "the most trying hour of my long military experience," wrote Cooke. But they knocked holes in the bottom of one of the women's washtubs, and using the sides to keep the sand from caving in, finally got a trickle of water.

The next day they camped at the present El Alamo, Baja California, dug out an old well and obtained a little water. Then they headed northwesterly, and at Pozo Hondo, in present Imperial county, California, received word of the battle of San Pascual. At Pozo Hondo there was not enough water for the men alone, and the dying animals went dry again. This was the worst period of the whole trip. The Battalion was suffering terribly from thirst, and every man was nearly at the end of his strength. They struggled all night, dragging themselves desperately along, ragged and barefoot. Some of them wrapped their feet in cloths or old bits of hides, but others were too tired even to take this trouble, but staggered along on bleeding feet. Finally the army reached a clear stream of running water—Carrizo creek.

Then they marched again. Between Vallecito and San Felipe they had to hammer and chisel out a pass for the wagons through the solid rock of a narrow pass. On January 21, 1847, they arrived at Warner's Ranch. At the Hot Springs they all bathed and noted that the water was so warm that the Indians slept on cold nights with their bodies in the stream, and their heads above water on the bank. On the 23rd the Battalion was rejoined by the corporal and the party of "sailors" sent back for the supplies cached on the Gila. The Battalion was heading for Los Angeles when orders came from Kearny to go to San Diego.

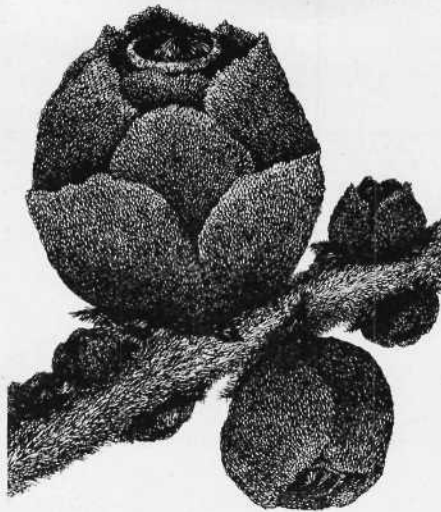
One mile below the Mission of San Luis Rey the gaunt veterans saw a sight that lifted their hearts. As they came over a little hill they got their first glimpse at the Pacific Ocean. It was one of those strange days, when the water was as still as a mirror, with the clear blue sky darker than the silver sheen of the water. Joy filled the souls of the desperate pilgrims. In their haste to reach San Diego, the men upset a wagon—the first overturned on the whole trip from Santa Fe!

And so, on the 29th of January, 1847, the trek of the Mormons was completed at San Diego. Colonel Cooke read his congratulatory order to the cheering men. "History may be searched in vain for an equal march of infantry," said Cooke, in a soldierly understatement. A ragged column of raw undisciplined men struggled through 1100 miles of barren wilderness, and had opened the first wagon road through the Southwest to California. Cooke's road was used by thousands of Forty-niners and, as a practicable railroad route, was one of the main reasons for the Gadsden Purchase. Today the railroad roars along much of the wagon route of the Mormons, covering in a day or so what the Brethren sweat blood over for months. The westward course of American empire swept largely over the faint wagon trail left by the intrepid Cooke and his Mormon Battalion.

The leading characters in Jerry Laudermilk's botanical story this month are grafters and thieves—and they live on opposite sides of the world, one a denizen of the desert and the other in a jungle hot-house. But despite their disparity in environment and size, they are cousins, scientifically.

By JERRY LAUDERMILK
Drawings by the Author

IT WAS high noon in the particularly arid Gypsum Cave locality of the Nevada desert. The geologist and I had hiked for miles beyond the point where the trail gave up and creosote bush and desert holly took over. We had reached a rendezvous to wait for the botanist who had left our three-man expedition early in the morning. We knew that when

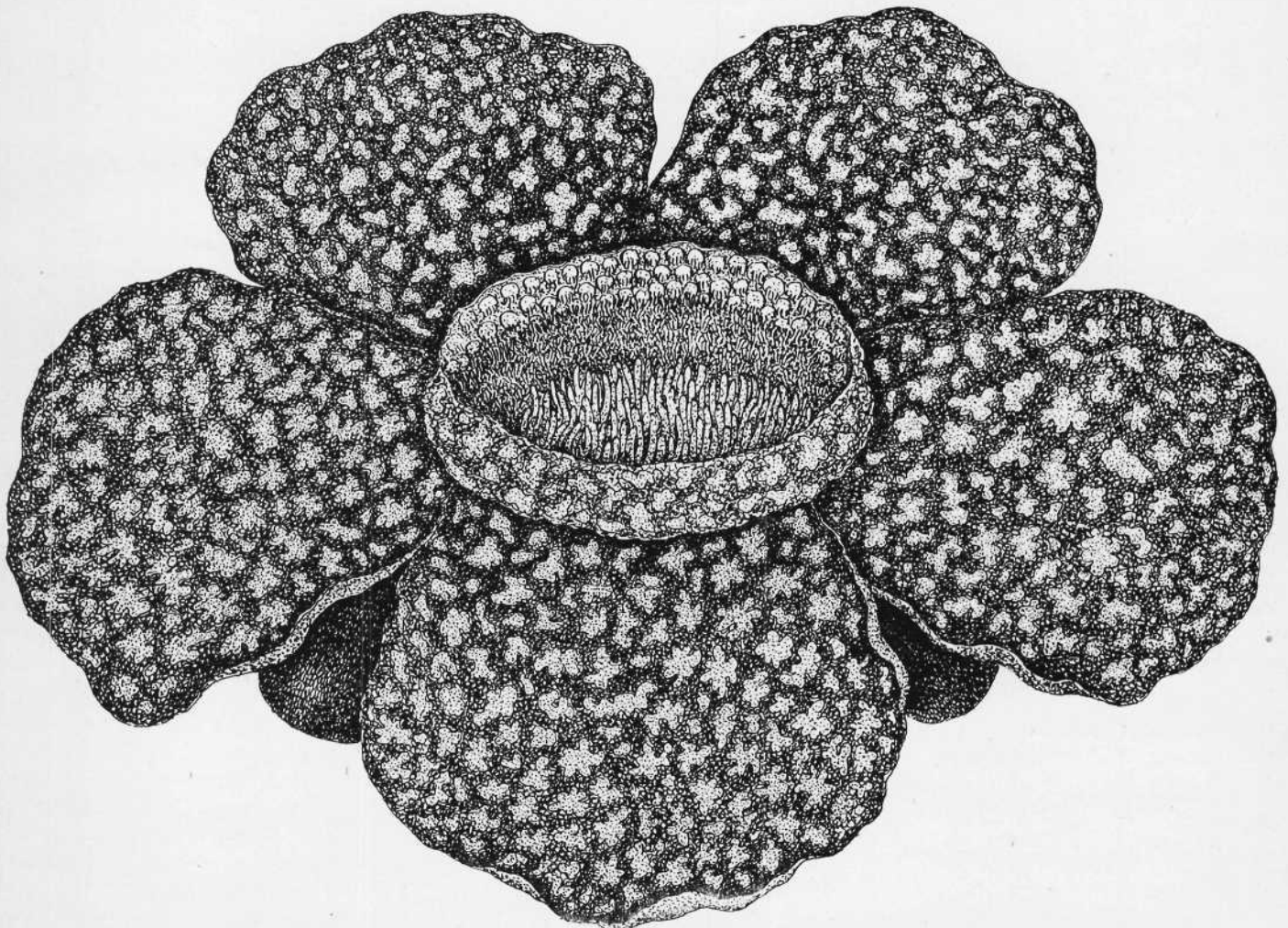


Greatly enlarged section of a *Dalea* branch with *Pilostyles* flowers in different stages of development.

he joined us again he'd be practically worn-out from packing a 20 pound plant press over the hogbacks and arroyos of that shadeless territory.

So I started a fire to brew a can of tea, a beverage I had found to be the quickest reviver for weary muscles on a desert trip. It wasn't long until the botanist caught up with us. He was dog-tired as we had expected but not too fagged out to notice the brown and black spots on a twig of indigo bush. (*Dalea fremontii* var. *johnsonii*) I was about to add to our camp fire. He reached for the twig and examined it with more interest than I thought it deserved. Then he handed it back to me with the cryptic remark, "thought at first the brown spots might be *Pilostyles*." I knew what the brown spots were—crumbs of charred tobacco. I had used the stick for a pipe-cleaner. But what was *Pilostyles*? This word was a new one to me. After he

Desert Midget and Jungle Giant



Rafflesia arnoldii, the gigantic jungle flower from Sumatra: A flower-miracle in purple, red, yellow and white. From a plate in *Lady Raffles' Life of Sir T. S. Raffles*, 1835.
Redrawn from the original plate.

had relaxed, he told us about one of the most curious natives of Arizona, a tiny brown flower smaller than a match-head, and its enormous cousin, the most prodigious flower in the world.

In the southwestern corner of Arizona where the Gila river joins the Colorado is a stretch of desert with a peculiar flora. Although the rainfall is only three to six inches a year, a curious effect of plenty blends with the generally starved look of the landscape. Along the Colorado river groves of cottonwood and "hickets of arrowweed loom green against the ash-colored background. Away from the river is a region where weathered granite mountains and long slopes of sunburnt malpais support a thin cover of dry and wiry shrubs interspersed with larger plants. In the summer it is a land of navy-blue shadows and hard white sunlight. Plants here strive ceaselessly against the winds that blow the seedlings out of the ground and marching dunes that smother many a promising plantlet on the brink of success. Then rare and destructive summer cloudbursts wash away many plants that have survived the wind and drought. So only the lucky and adaptable live on and many resort to curious tricks to hold their own.

You can see that in this locality a man needs some initiation before he can comprehend the strange life dramas that take place only a few feet away. Fantasy reaches a climax here with the rare and curious little plant, *Pilostyles thurberi* whose existence might never be suspected. This species has only been observed so far in one small area between the north end of the Gila mountains and the Gila river where it grows as a parasite, and only on the indigo bush (*Dalea emoryi* and possibly *D. schottii*).

The midget hero of my story belongs to a small and highly specialized family of grafters with a tremendous name, the *Rafflesiaceae*, which has thrown all pretense to vegetable ethics overboard and reduced everything in its structure except the flower to a web of cells like the mycelium (spawn) of a mushroom. This web is for one purpose only, theft, stealing the sap from some unfortunate host-plant into whose tissues *Pilostyles* has sunken its filaments. This host is always the indigo bush.

Dalea is a shrubby legume with purple flowers and smooth pale-colored stems covered with a silky down which grows to a height of about four feet and is common throughout the region. Until about April nothing unusual will be noticed about these plants. Then, upon the stems and lower branches of certain *Daleas*, thickly scattered specks of blackish dots like pepper appear. These are the tiny flower buds of *Pilostyles* which have just broken through the bark. The dots soon develop into a colony of minute brown flowers like crumbs of burnt toast. The appearance of the little stemless blossoms is almost as grotesque as would be peach blossoms bursting through the bark of a sycamore branch. Soon these elf-size flowers set seed and ripen as the blossoms dry up, and once more everything is ready to begin again the old round of thievery on the stem of some new victim. So much for our American representative of the *Rafflesiaceae*. Next let's have a look at *Pilostyles*' giant cousin.

It's a long jump from the sandflats of the Colorado river to the jungles of Sumatra where we shall meet the chief of the whole clan. This is the flower, for the flower is all that meets the eye, of *Rafflesia arnoldii*.

In the early 1800's, when Sir Stamford Raffles, Lieutenant Governor of Sumatra, explored the jungles of the interior where land-leeches were so thick the boots of the explorers "soon filled with blood," men of the West saw this wonder of the



Flowers of the Arizona midget, *Pilostyles thurberi* growing on the stem of indigo bush (*Dalea emoryi*). One of the many flowers is shown at A.

vegetable kingdom for the first time. May 21, 1818, in the green twilight of the reeking forest, humid as the orchid room of a hothouse, they gazed awestruck upon this monstrous flower of lurid colors, wild and strange in its way as the chanting heard in a quinine-dream. The enormous blossom, sometimes four feet from petal tip to petal tip, flamed wondrously with purple, sultry red, vermilion and gamboge yellow, all weirdly splotted with spots of livid white, and, says Sir Stamford "the nectarium was nine inches wide, and as deep; estimated to contain a gallon and a half of water, and the weight of the whole flower fifteen pounds." The "nectarium" to which he refers is an old term applied to the central, cup-shaped organ of the flower.

This uncanny plant grows upon the exposed roots of vines where the seeds, scattered by the trampling feet of browsing elephants, have lodged. At first the young *Rafflesias* appear as small round buds the size of walnuts. These soon swell to the size of cabbages more than a foot through. Then at last the enormous buds unfold their glowing petals like a silent drama in the jungle dusk.

The eerie flower-vampire endures but a few days. Its thousands of seeds ripen and mix with the remains of the decayed blossom which passes from the tropic scene—with the smell of a dead fish.

There may well be hitherto unreported occurrences of our own midget of the *Rafflesia* family, *Pilostyles*, for, as I suggested at the beginning of my story, wherever the host-plant (*Dalea emoryi*) grows the tiny thief can also be expected. And too, it would be of tremendous interest to hear from some Desert reader in the armed forces who may see *Rafflesia*, itself, in its native habitat.



Mass of selenite crystals at the base of the desert jewel box, some weighing up to 500 pounds.

Crystal Jewel Box in the Utah Desert

Nature erected a tower of glistening selenite crystals in the Utah desert—and placed them in such an inaccessible spot that they can be reached only by a pack train. Perhaps it was a wise arrangement, for such a natural jewel box as Charles Kelly describes in this story needs and deserves some kind of protection. Selenite crystals hold no interest for gem-cutters because they have a hardness of only 2, and have little value except as "pretty specimens."

By CHARLES KELLY

EASTWARD beyond the end of the oiled highway at Torrey, the desert road through Wayne county, Utah, winds along the base of highly colored, beautifully sculptured cliffs and through deep, tortuous sandstone canyons where every turn presents a delightful picture. When dry this road presents no difficulty; but a slight sprinkle of rain quickly reduces its red surface to the consistency of soft soap, temporarily but effectively stopping all travel.

This condition is largely due to the

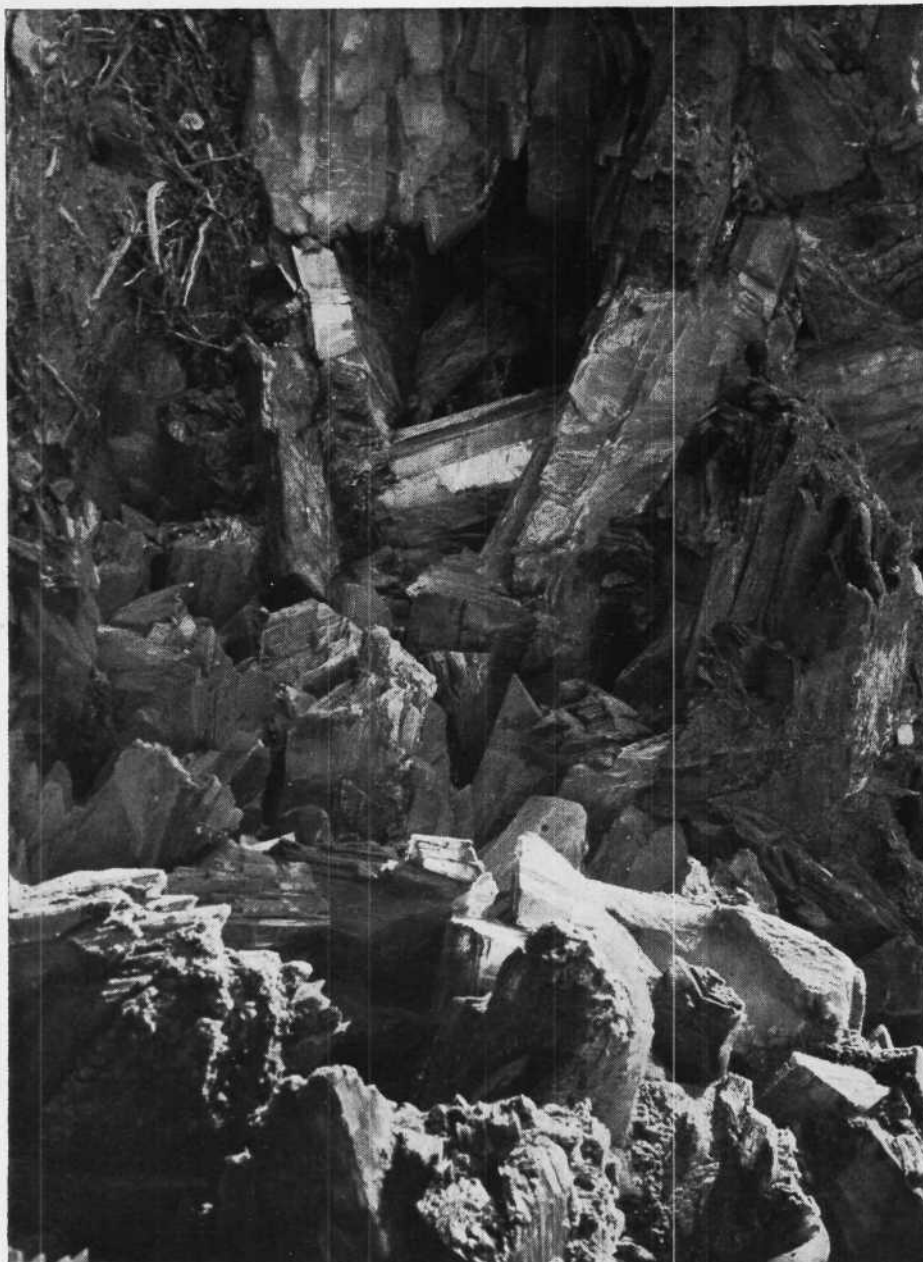
presence of gypsum in the soil. Rock formations through which the road runs are highly impregnated with gypsum, easily visible as thin white sheets or narrow veins usually not over a quarter inch in thickness. The material seems to have been deposited in a shallow, brackish lake containing much gypsum in solution.

But the geological conditions which now make wet weather driving hazardous also produced, in another section of Wayne Wonderland, some phenomenal groups of unusually large and beautiful crystals of

gypsum known as selenite. These deposits, sometimes as large as a small house, found in the Carmel formation, have been eroded out of soft red rock and stand glistening in the desert sun like gigantic jewel boxes, visible for miles. Average length of these crystals is about 18 inches, but some are nearly three feet long and weigh up to three or four hundred pounds. While some have a slight greenish cast, others are so transparent that a newspaper can be read through a thickness of several inches.

These deposits of selenite were discovered in pioneer times by cattlemen. About 40 years ago a geologist collected some unusually large specimens, which he placed in various museums and private collections, where they are still on display. Since that time the locality seldom has been visited.

Eight years ago Dr. A. L. Inglesby, who has been collecting rocks and minerals for many years, moved to Fruita in Wayne county, where he continued his hobby. From time to time he heard of these crystals, but the deposits were far off any road in a section difficult of access, and it was several years before he acquired any specimens. In the spring of 1944 he tried to reach the spot by truck but found it impossible. Later he tried to go in with team and wagon, but had to turn back. Finally, in September, he decided to go in by pack train and try to bring out a few large specimens. Dez Hickman, of Torrey, furnished the horses and I was invited to accompany the expedition.



Center of the crystal mass, showing some large clear crystals nearly three feet long.

Leaving Fruita at daybreak with three saddle horses and three pack horses, we rode down the deep, winding, picturesque gorge of Dirty Devil river for about ten miles, fording the stream 34 times and passing entirely through Capitol Reef, through which the stream has cut its channel. As we traveled downstream we passed upward, geologically speaking, from the Moenkopi formation, through the Chinle, Wingate and Navajo to the Carmel, just east of the reef. Here the canyon walls break down and South Desert wash enters it from the north.

Leaving the river we followed the wash, a dry channel cut through the Carmel formation. Toward the east were high, sheer cliffs, while a succession of rounded knolls of decomposing rock lay along the west bank of the wash at the base of Capitol reef.

Rather than follow the meandering wash

we traveled mostly over and through these red knolls. Everywhere we could see glittering bits of gypsum, for which the Carmel formation is noted, and were thankful the skies were clear, since even a horse would find treacherous footing if the soil was wet. After several miles of apparently aimless wandering we rounded a steep knoll where Dez Hickman pointed out large pieces of selenite that had rolled down the slope from an outcrop above. Stopping here a few minutes we uncovered some nice crystals, but they were not exceptionally large, so we moved on again. Continuing north we passed several places where large deposits of selenite were exposed. Dez told us such outcroppings could be found at intervals in that rock formation for a distance of 30 miles.

Finally we turned a bend of the wash and saw what at a distance looked like the ruins of a rock tower built on the side of

a hill. Near its base were many flat pieces of selenite shining in the sun like panes of glass. As we drew closer we saw that the "tower" was one solid mass of immense clear crystals, glittering like some giant's jewel box. None of us spoke for several minutes as we stood admiring this strange phenomenon of nature, the like of which I had never seen before or ever dreamed of. Most crystals are hidden in the bowels of the earth and can only be found by blasting and digging. But here was a treasure chest standing boldly above the surface, as plainly visible as a lighthouse.

This outcrop rose directly from the bed of the wash, which in flood season had cut away from the knoll's base, leaving the mass exposed. One side of the base presented a flat surface showing thousands of small crystals, but the upper part was a compact group of large crystals, some nearly three feet in length. Those on the outside, exposed to wind and rain, were slightly stained with green, although their sharp angles showed little evidence of weathering.

Not wishing to disturb the main mass we began carefully prying off odd pieces around the base. The crystals had been formed with some air spaces between, which near the surface were filled with red soil. Farther inside, where no foreign matter had penetrated, the crystals were perfectly transparent, regardless of thickness. In the center of the mass was a cavity and around this the most perfect crystals had formed, one of which would probably weigh 500 pounds. We did not touch that section, since the best pieces could not be removed without destroying many others.

By using iron wedges we were able to separate individual crystals, but since this necessarily left some scars, we removed the material in as large pieces as possible. Within two hours we had taken out several specimens, including one single crystal weighing about 300 pounds. Dez loaded three pack horses with 200 pounds each, but had to leave the largest pieces, which were too heavy for the horses.

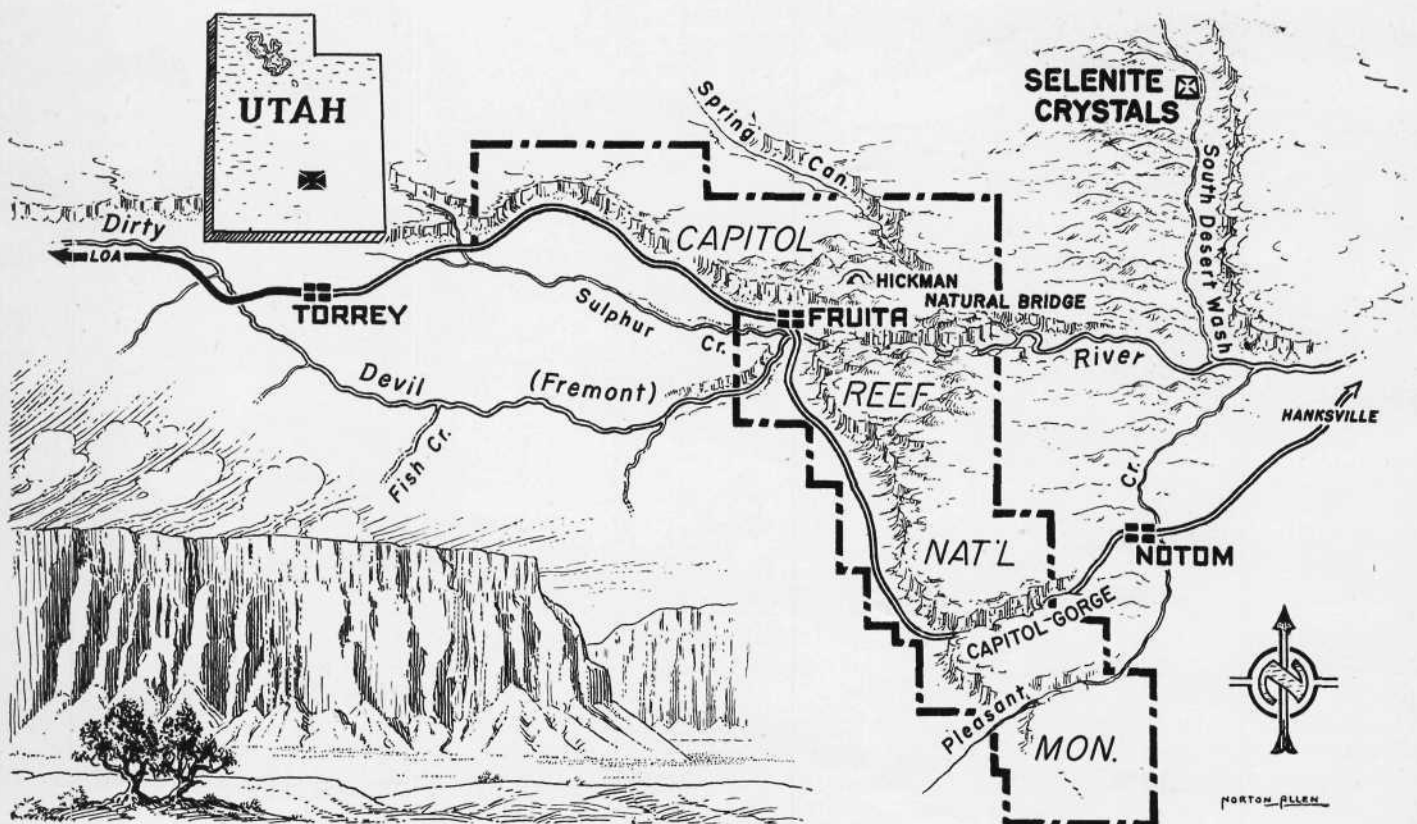
Looking at our loot next morning, it seemed but a pitiful small sample of the available material, although some of the specimens were unusually fine. According to those who should know, they are among the largest and finest ever found in this country.

Having had to leave so much behind, Dr. Inglesby seemed somewhat disappointed in the results of the trip, until, in sorting the stuff, he accidentally discovered that one of the crystals enclosed a cavity containing water and an air bubble. This, he said, was the answer to every rockhound's dream and alone was worth all the time and effort. His ambition now is to go back and find more like it.

Perhaps all rockhounds are like that—always looking for a bigger and better specimen.



Looking at a distance like the ruins of an old tower, this desert jewel box in Wayne Wonderland, Utah, reflects sunlight from thousands of great selenite crystals.



Lone Survivors of a Deluge

By RANDALL HENDERSON

ONE DAY, sooner or later, the owner of a cabinsite at Desert Hot Springs, or somewhere on the great sandy bajada that extends from the southern base of California's Little San Bernardino mountains to Whitewater river, may be excavating foundations for a new cottage, or combing the desert for rocks for the fireplace, and come upon an ancient Indian metate or mortero.

When that happens, perhaps I can contribute a bit of information as to the possible origin of the old relic. It does not require the insight of a professional archeologist to visualize the circumstances under which that Indian grinding stone was deposited out on the desert plain many miles from the nearest water, or from the aboriginal campsite where it was used.

Probably that Indian tool of the stone age was carried down out of one of the Morongo canyons, along with other tools and weapons of prehistoric origin, in one of the great cloudburst torrents which at long intervals surge through these canyons. Such floods carry a tremendous tonnage of sand and boulders. That is the way bajadas are formed.

I found striking evidence of the destructive power of these storm floods on a recent trip into Little Morongo canyon. James E. Cole, custodian of the Joshua Tree national monument, told me he had seen some veteran Washingtonia palms in the Little Morongo one day while he was trying to locate the western boundary of the monument. I wanted a record of those palms for my log book of the Southern California oases—and so Jim and I hiked down there to see them.

We found but two trees—veteran palms that obviously were natives of prehistoric origin. I am sure these trees merely are the survivors of what was once a palm forest of considerable extent. For there is abundant water in this canyon, a flowing stream which comes from springs which are never dry.

The two palms had lived through the recurring floods which swept down the canyon because they happened to have sprouted well up on the slope above the

While native palm trees are on the increase in many of the oases of Southern California, here is the record of one canyon where torrential floods have destroyed all but two trees of what probably was once an extensive forest. But there is a fine water supply in the canyon where these trees grow and if left undisturbed, Nature will begin again her task of restoring this scenic spot to the beauty that prehistoric Indians found here.



This old veteran, scarred by many fires, escaped the cloudburst floods in Little Morongo canyon because it stood on higher ground. At the base of the tree are national park rangers who accompanied the writer to this spot. Photo by Harlow Jones.



This is the upper one of the two native palms still growing in Little Morongo canyon. This tree is about a mile downstream from the Morongo valley entrance to Little Morongo canyon in the Little San Bernardino mountains. Photo by Harlow Jones.

floor of the gorge. The picture of a torrent of water surging down the canyon, uprooting all the palms on the lower level, was clear to me because I have seen evidence of the same occurrence in the beautiful palm canyons of the desert in Lower California. In two instances, in Mexico, the cloudbursts were of such recent dating that hundreds of dead palm trunks may still be seen, piled high in the debris at the mouths of the canyons. Exploring these canyons, I learned that only those trees which grew above the flood level had escaped destruction.

And while the flood water was denuding Little Morongo canyon of its palms, it also swept away most of the evidence of the Indian camps which unquestionably were located along this stream of clear sweet water. For this is Indian country, and water and palm trees are an invariable guide to the habitations of the ancient redmen—just as today they mark the campsites of prospectors and those who follow the desert trails.

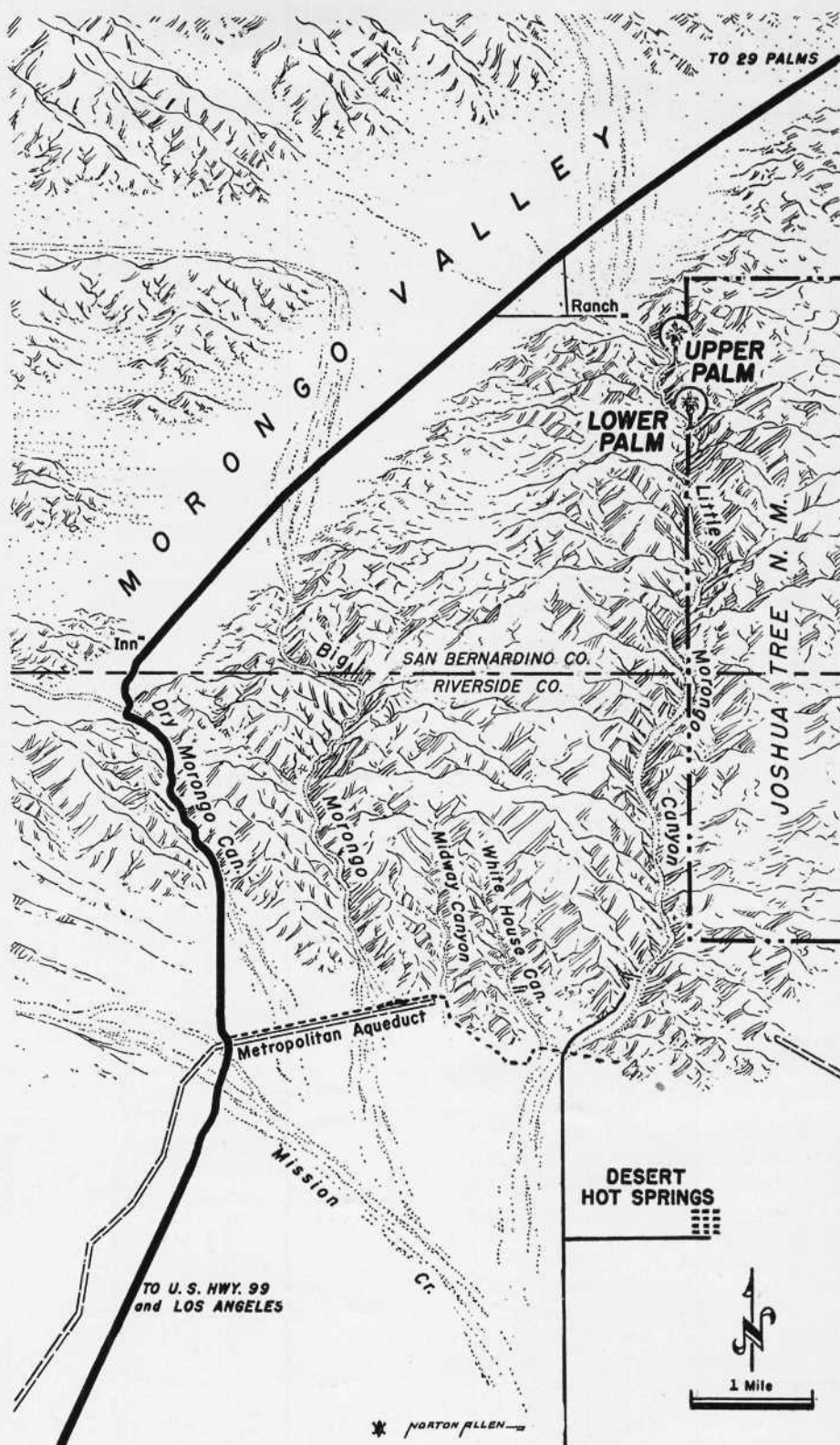
There are two live streams in this sector of the Little San Bernardino range. One is in Little Morongo, the other in Big Morongo. Jim Cole tells me there are no native palms in Big Morongo. The water comes from springs and seepages where the canyons leave Morongo valley, and flows a mile or two miles or all the way to the mouth of the canyon, according to the season of the year and the rainfall of the preceding months. At the time of my trip, in April this year, water was flowing the entire length of Big Morongo. In Little Morongo it disappeared in the sand about half the distance down the canyon.

Easiest access to the palms in Little Morongo is from Morongo valley—downstream. A cattle ranch occupied by the Duncan family is located there. Many palms grow around the ranch house and in the stock corrals, but these obviously were planted there in comparatively recent years.

The upper one of the two native trees is about a mile below the ranch house. The second is a quarter mile farther down.

At the present time it is possible to reach the lower palm over a winding and rocky motor trail going upstream from the mouth of the canyon. This is not an improved road, however, and much of it will disappear when the next storm flood comes down the canyon.

The Metropolitan aqueduct tunnel crosses the Little Morongo about a mile upstream from the mouth of the canyon. But the huge cement pipeline is buried beneath the floor of the canyon, with only the rock dump mucked from the bore below and brought to the surface by shaft to mark the location. The contractors had a large construction camp here—but the buildings are all gone now and the site swept clean.



Mute evidence of the destructive force of the flood torrents which come down this canyon is seen in the remaining sections of the macadam road originally built to the aqueduct camp. Long sections of the road have been swept away and the route is marked only by occasional islands of macadam which in places stands three or four feet above the present floor of the rocky streambed. Motorists now going up the canyon follow short sections of the old road, but for the most part they travel

on detour trails that wind among the rocks. From the lower end of the canyon it is $7\frac{1}{2}$ miles to the first palm.

While the western boundary of the Joshua Tree monument is not well marked, Custodian Jim Cole has concluded that the upper palm tree is outside the monument while the lower one is so close to the line as to be in doubt until a survey has been made.

A heavy growth of arrowweed, mesquite and willow covers the floor of the upper



Showing an "island" of the old macadam road built by the aqueduct contractors to serve their construction camp a mile from the mouth of Little Morongo canyon. Storm floods have destroyed most of the highway.

part of the canyon, while the slopes are dotted with yucca and nolana, with agave and juniper higher up.

We looked in vain for evidence of the former Indian dwellers in this canyon. Undoubtedly the desert natives were here, but if the artifacts from Little Morongo ever are recovered, I am convinced they will be unearthed by accident by cabin dwellers on the great desert plain of Coachella valley where city folks in ever increasing numbers are buying plots of ground and erecting weekend and vacation cabins to escape the high pressure of metropolitan life.

If Nature were permitted to complete her cycle undisturbed there is little doubt but that the palms which have been swept away in Little Morongo canyon would eventually be replaced by a new generation of Washingtonias. But it would take a long period of years—and in the meantime I am one of those who would favor the planting of young seed—to the end that this canyon be restored within the span of the present generation to the scenic beauty found here by the aborigines.

Companions on the trip into the Little

Morongo, in addition to Custodian Jim Cole, were three department executives from the regional office of the park service in San Francisco: Schofield DeLong, architect, Sanford Hill, landscaping engineer and Homer Crowley, engineer. Harlow Jones went along as photographer.

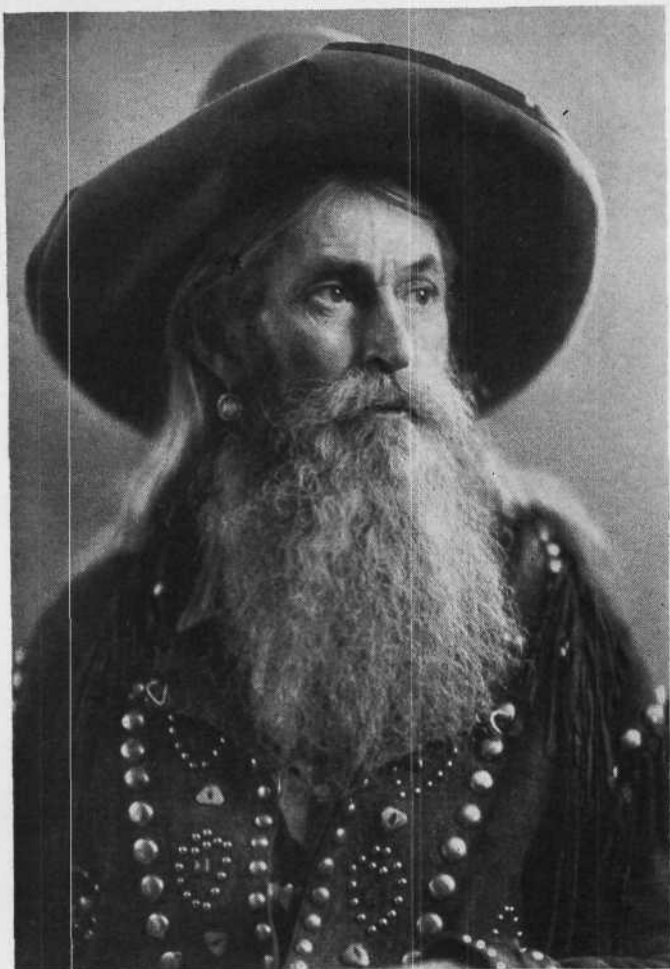
Later we followed the well-graded roads through the Joshua Tree national monument and Cole pointed out potential sites for public campgrounds to be installed as soon as manpower is obtainable. Many attractive sites are available, coves and nooks where visitors may camp in the shelter of huge fantastic rock formations and spend vacation hours studying the botany or exploring caves or climbing precipitous faces of granite. Water will have to be developed for these sites, and it is not a simple matter, but the park organization will solve it eventually.

There is no haphazard improvement where the park men are concerned. The architectural department makes sure that proposed buildings conform to lines appropriate to the terrain, the landscape engineers insist that Nature's handiwork be disturbed as little as possible, the engineer-

ing office has to solve problems of water supply, sewage disposal, drainage and access.

It had been three years since I visited the monument. Roads have been much improved, but otherwise the landscape remains unchanged. It is now possible to motor to Keys view on the high ridge of the Little San Bernardino mountains over a smooth easy grade. Plans are in the making for a unique shelter and lookout station on this point, overlooking the great expanse of desert to the south and east.

Cole told me of his recent discovery of a lone Washingtonia palm—evidently a native—growing in the monument at an elevation of 4300 feet at the head of 49 Palms canyon. If his estimate of the elevation proves correct, this tree probably is the highest among the thousands of native palms found on the Southern California desert. Up to this time the Washingtonias at Dos Palmas spring in the Santa Rosa mountains near the Pines-to-Palms highway (not to be confused with Dos Palmas oasis near Salton Sea), have been regarded as the highest outpost of the palm family. They grow at approximately 4,000 feet.



William Kit Carson of Roswell, New Mexico.

IN ROSWELL, New Mexico, the old-timers of Pecos valley were holding their annual reunion and parade. It was a colorful procession—covered wagons, veteran cattlemen in boots and spurs and 10-gallon hats, belles of the gay 'nineties in hoops and bustles, a cowboy band, old stage coaches and behind the wagon division a band of Apache Indians from the Mescalero reservation, descendants of Geronimo's notorious raiders.

Leading the parade was the governor of New Mexico, accompanied by a former governor who had been a cowboy in the Pecos in 1885—and had quit the range "when they began punching cattle in Ford cars."

As the procession passed there was cheering from the crowds on the sidewalks. But it was noticeable that the loudest applause moved along the street with the passing of an elderly frontiersman on a spirited cavalry horse.

His grey hair reached his shoulders. He wore fringed buckskins adorned with silver. The rolled felt hat on his head obviously had seen long service. Through an elaborately beaded belt was thrust a fighting man's hunting knife. His earrings were of thunderbird design, similar to those worn by Apaches on the warpath.

On another person such trappings might have appeared gaudy—but not on this dignified veteran of the desert country.

This was my first glimpse of William Kit Carson, nephew of the famous scout who bears the same name. Since that parade day in Roswell many years ago I have become better acquainted with "Uncle Kit" as he is called, and often have visited the two-room cabin near Roswell where he came in 1931 to spend the remaining years of his life.

My first visit to the old scout was to get information about the once dreaded Apache Chief Geronimo.

One of the last of the scouts who followed the trail of Geronimo, William Kit Carson, 87, lives today in a cabin on the outskirts of Roswell, New Mexico. Here "Uncle Kit" turns back to pages of history and gives many interesting sidelights on that period when white man and Indian were engaged in bloody contest over the Southwestern territory which was the ancient hunting ground of the Apache.

Uncle Kit, Frontiersman

By GEORGIA B. REDFIELD

The old man was in his everyday work clothes. He sat on a sawed log seat in front of his house, with his dog and his gun close by his side.

Inside his cabin the walls were covered with pictures, relics and newspaper stories of the early years, of events in which he played an important part.

Trophies from the buffalo hunting grounds and the Indian wars hung from rough pine rafters. There was an Indian belt taken from a fierce old warrior who once got the drop on the wary scout and put a bullet through his leg crippling him for a year.

On the walls of the room were deer horns, a warbonnet, buffalo robe, and soft tanned deer skin and lamb skin rugs.

Fastened with thumb tacks on the closet door was the birth certificate, signed by the Rev. George De'Vloo, Pastor of Sabello, New Mexico:

"I hereby certify that William Kit Carson is the son of William Carson and Maria Carson. That he was born August 7, 1858, in the soldiers barracks in old Fort Union, New Mexico.

When asked why he wore long hair and beard, the old man replied with a twinkle in his eyes, "Not because we thought they made us look handsome, as you might think. All the scouts wore long hair because the Indians had more respect for a man who had long hair, showing they were not afraid of scalping. My Indian scout pals, Pawnee Bill and Diamond Dick, who was Dr. Richard Tanner of Nebraska, all wore our hair long.

"Let's see," the old man continued, "guess it was Geronimo mostly you said you wanted to hear about. Pawnee Bill was my blanket pal when we were chasin' old Chief Geronimo. After the old fellow was captured and persuaded by Lt. Charles Gatewood to surrender, and we took him to Florida, and later to Fort Sill, Oklahoma, I felt sorry for the rampagin' old chief.

"He honestly believed that the white man stole the Indians' best land and buffalo huntin' grounds, over there east of Pecos. He thought the Apache had a right to take anything the white man had, in return.

"Until the hour the old chief died he believed he would some day be allowed, like they promised, to return to his old mountain home in Arizona. He said: 'The government never did keep a promise or a treaty unless there wasn't any way of gettin' out of 'em.'" After a moment he added seriously, "He wasn't far wrong at that. Old Geronimo was smart. You couldn't fool him, no matter how hard you tried.

"Pawnee Bill was always good to old Geronimo. He got the Government to let the old fellow travel with his Pawnee Bill



Kate, second wife of the old chief, Geronimo, and her present Apache husband.

Wild West Show. All the shows wanted to hire him but the old Apache wouldn't ever travel with anybody but Pawnee Bill. He went to the World's Fair in Chicago too, with Pawnee Bill.

"All my old pals are dead now, and all the army men I knew are dead.

"Old Kate Geronimo, the chief's second wife still lives, but they keep it pretty quiet. People would worry the old squaw to death if everybody knew she was living up there on the Mescalero reservation. They sent her back after old Geronimo died. She married old Apache Cross Eyes, and she's got a new house like the government built for all the Apaches on the reservation and things are not hard for her now since she's so old.

"Robert Geronimo, the old chief's son, lives on the reservation too. He has a fine stock ranch. He is well liked by everybody on the reservation.

"When Geronimo died at Fort Sill of pneumonia, in February, 1909, he was buried in the Apache burying ground on Cache creek. You know Indians believe in the happy hunting ground, and when the warriors die some of the Apache tribe kill his horse at his grave, and his guns and tomahawks and bows and arrows are left on the mound.

"When Geronimo was buried, just as they threw the last spadeful of dirt on his grave, old Kate dashed through the crowd leading the Apache chief's favorite pony. Before any of the soldiers could stop her, she slashed the pony's throat and he fell over dead on the old chief's grave.

"This is the chief's picture." Uncle Kit got up and rummaged around in an old suitcase. When he faced me again, and handed me the picture, there were tears in his eyes.

"He liked me," said the old scout, "even if I did help to run him down. He gave me his picture, himself.

"I think ol' Geronimo liked me because I lived as the Indians lived, and because I married an Indian maiden—her name was Little Wild Rose. I danced the Indian dances—like the Apache devil dances—which they have the first week in July up there on the Mescalero reservation. Every step and every stomp has a meaning. I know them all.

"It was at one of the ceremonial dances I spotted Little Wild Rose. I said to myself, 'She's the maiden for me.' So I told her father I liked his daughter, and I wanted to sing to her. He said, 'How many ponies you got?' I told him I had quite a bunch and I would give him seven ponies. I gave him all the tobacco I had in my pocket and he let me sing on the outside of his daughter's tepee. I sang all the love songs I knew in Indian, and all the time she knew American as well as I did. She had spent five years in school and talked just like any white maiden.

"When I got on my pony and rode away she came out of her tepee and threw a handful of pebbles after me. That meant I was accepted and could come again. If she hadn't come out it would have meant not to come back.

"The next time in the light of the moon I sang again, outside of her tepee, and she came out and stood beside me until I finished my song, then she gave me a fine pair of moccasins she made herself from my footstep measure she got, outside in the sand, the night of my first visit.

"By the light of the next moon I drove over the seven ponies I had promised, and the tom-toms started up and we had a bridal stomp dance. Chief Little Hock came and took Little Wild Rose by the hand and led her outside of the light of the bonfires, and then he came back and led me to my squaw. He asked if we wanted to live together for the rest of our lives. We both answered, 'yes.' He made us promise to be good to each other, and that promise neither of us ever broke.

"That night the squaws put up a tepee for each of us. One on the east side of the bonfires and one on the west, and we slept apart. The next morning we had breakfast by the bonfire and neither of us spoke a word. That was the bridal custom. Then the chief brought a fine woven Indian blanket and wrapped it around us and he said, 'You are now buck and squaw.' They then brought us our ponies, and we mounted and I took her back to where I was born, at old Fort Union.

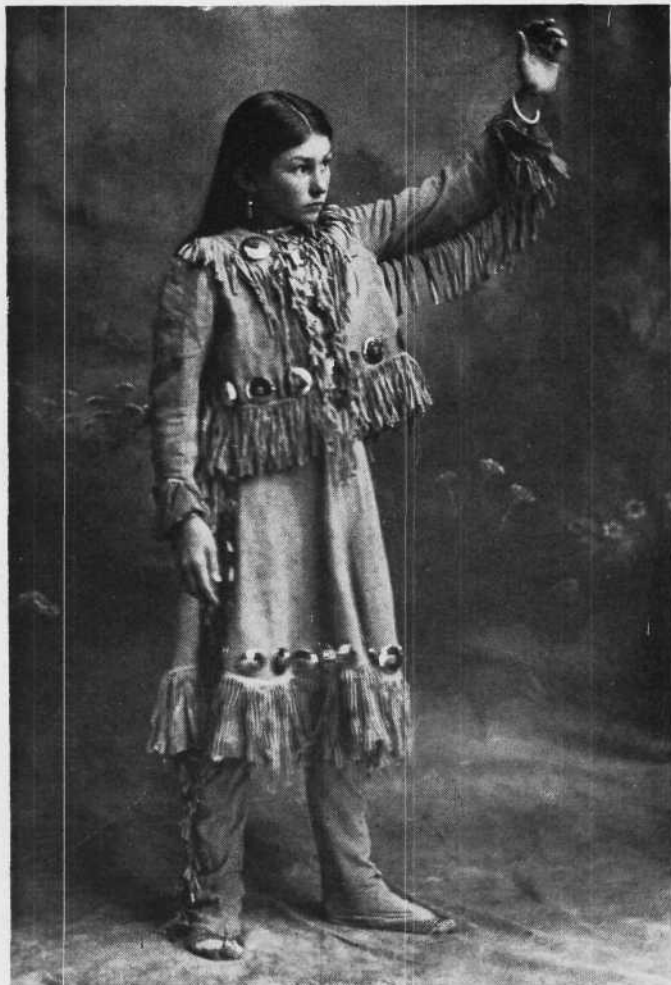
"This kind of Indian marriage always stuck. There never was any divorce. Blanket marriage meant for always.

"My wife died in 1902 and left me alone to bring up our little daughter, we named, Nucki.

"I stayed and raised her among the Indians. This is Nucki's picture, in her maiden ceremonial dress. She lived in the sunshine and was jus' like a sweet wild flower. Everybody loved her. She would ride her pony all day long until she came in at night to sleep. See in her picture she has her arm outstretched. That is the way, at sunrise, she asked the Great Spirit to bring happiness for the new day. That's another Indian custom.

"Nucki died soon after she was shut up in school every day, then I was left all alone. There wasn't anything left there for me. I commenced traveling with the Coleman Shows. I had a band of fine Indian bucks. We took our show to England but the Indians longed for their own country, and would go down to the shore and look far away across the ocean and howl because they couldn't wade across to their American home.

"When we came back to America we went to Louisville, Kentucky, with the Lang Amusement company and stayed there



Nucki, "just like a little wild flower." Daughter of William Kit Carson and his Apache wife. She died when they sent her away to school.

from 1928 until 1930. While I was there I met a fine American lady. Her name was Francis Stout. She had a sick son in a Louisville hospital. We soon were engaged, and I quit the show business. I wanted both of us to go back to old Fort Union and live. Francis said we would have to wait until her son got better and could leave the hospital. Then we could be married and go back. I went on alone to fix up a home, but there wasn't anything left but tumble down ruins of the old fort. It made me sad to see it. I left and came to Roswell. I wrote to Francis telling her where I was making a home. All my letters came back. Her son got better and they had gone away from Louisville.

"So now I am all alone again. I sit out every evening by myself on the old log seat at my door and watch the sun go down over there behind Old Baldy. I'd always think about the times I chased the Apaches when they got away from the reservation up there, when they went on rampages. There wasn't anything between here and the White mountains and old Capitan then but Indian moccasin tracks."

Soon after my first visit to Uncle Kit, I went up to the Mescalero Apache Indian reservation. I wanted to see Geronimo's widow—old Kate Cross Eyes. I found her, just as Uncle Kit said I would. She was sitting on the floor of her new house as she had been accustomed to sit in her old tepee home. Although she was almost blind she was picking over beans for their noon day meal.

No one knows how old the woman really is. No records were ever kept of the older Apache Indians.

Her present Apache husband demanded \$40.00 for the privilege of taking his wife's picture. We compromised with a

bright new necktie, a pair of brilliant socks and 50c, but he insisted on being included in the picture.

While not beautiful the old woman is interesting as the loyal wife of Geronimo, of whom the old renegade would invariably say after each raiding escapade, "I been home in peace with my wife and children." She spent the last unhappy years with Geronimo during his confinement at Fort Sill.

I saw the Mescalero Devil Dancers, wearing their spectacular July ceremonial costumes, with their black hoods of buckskin, black masks, molded to their features; and double-decker head-dress of awe inspiring impressiveness.

After several months absence from Roswell this year, I returned one day to find that Uncle Kit, the loyal friend of the Apache Indians, at the age of 87 years, had taken a wife.

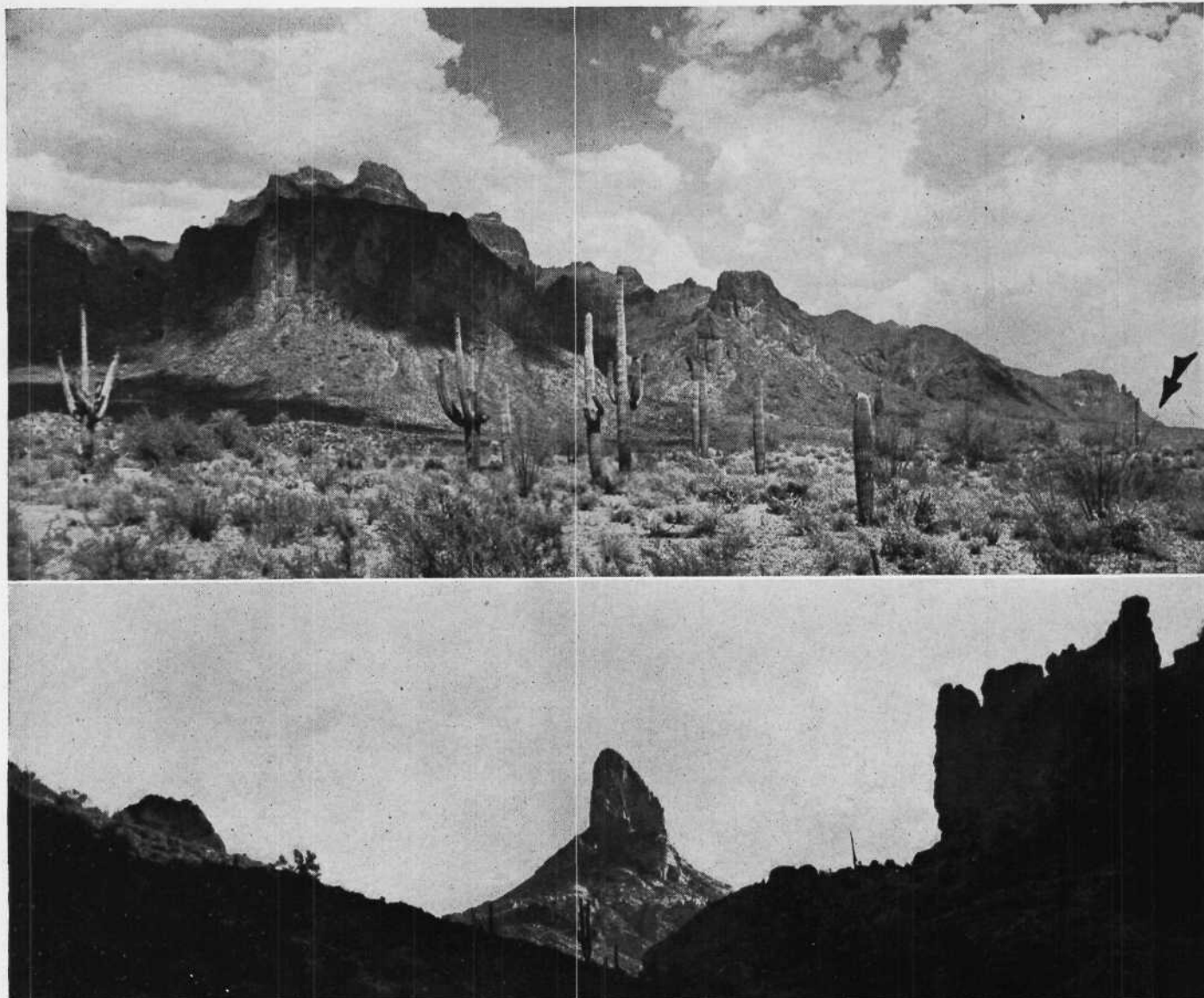
During the hot July weather last year he suffered a sun stroke and while ill, his Louisville fiancée who had come to New Mexico, with her son, to find the old gentleman, learned that he was no longer at Fort Union. She established her home in Albuquerque and one day saw Uncle Kit's picture in the paper as he was greeted at a political meeting by former Governor John Miles. She soon learned he lived in Roswell. She wrote him.

Kind friends, nursing the lonely old man, informed her of the old scout's condition. She and her son came at once. Uncle Kit, overjoyed by their reunion, soon recovered.

The little house would not hold all of the good friends of the old frontiersman who wished to attend his wedding, so they were married September 8, 1944, in the yard at the front of his home, where he had sat, so many evenings throughout long lonesome years, to watch the sun set over Old Baldy in the White mountains.

Geronimo gave this picture of himself to his friend William Kit Carson.





In the Queen Creek area of the desert (arrow) on the south slopes of the Superstitions, David Hawkins' prospector uncle found the Silver Antelope of Apache tradition which may well prove to be a second Silver King mine. Weaver's Needle, below, at the foot of which many have found gold.

Rumors of Gold

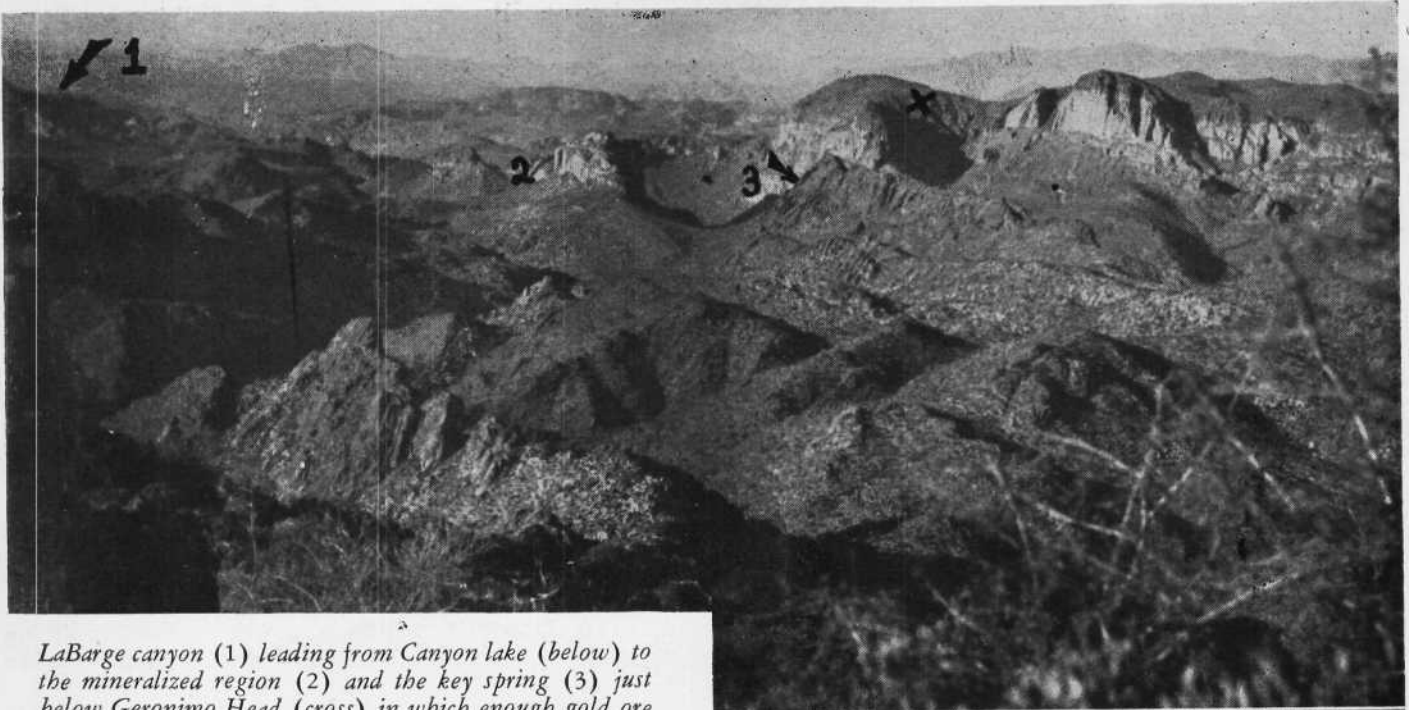
By BARRY STORM

Gold meant nothing to the Apache Indians except for its exchange value in buying powder and lead to carry on warfare against the invading white men. And when the imprisonment of Geronimo virtually ended the Apache fighting, the old chief never revealed the source from which he had drawn his treasure. But there were rumors—and here is the story as it is still told in Arizona.

IN THE Superstition mountains of Arizona, in the mineralized region of reddish hills bordering LaBarge canyon, where to this day occasional travelers report finding a lone piece or two of flint-like, brightly-colored quartz, heavy with iron and gold, there are exposed on the surface large masses of low assay gold ores from which "colors" may easily be panned. But there are also other ores in the region, a bonanza vein of rose quartz which is said to have produced many bars of gold bullion though it has not been worked by white men for well over a century. According to legend this vein is on the mountain now called Geronimo Head which rises sheer and

ragged a thousand feet or more to form the east wall of LaBarge canyon directly across from the region of red hills.

Geronimo Head, which is a rugged area of about six square miles, is reputed to have been the favorite hiding place for Apache Indians when hard pressed by pursuing soldiers—and the source of the gold which financed many hard-fought campaigns against the white men who were invading Indian lands. Somewhere in its bewildering maze, which would baffle even a mountain goat, and stretching south from Tortilla Flat for over three miles into the wild Superstitions, is a hidden box canyon, a veritable slit in solid rock, probably fault-formed and



LaBarge canyon (1) leading from Canyon lake (below) to the mineralized region (2) and the key spring (3) just below Geronimo Head (cross) in which enough gold ore has been found to make the famed Geronimo's story of a Spanish mine in the mountain which bears his name an exciting possibility.

erosion cut. The great Apache chief Geronimo, himself, has said that it is there. And Geronimo has always scorned a forked tongue! Geronimo has never lied!

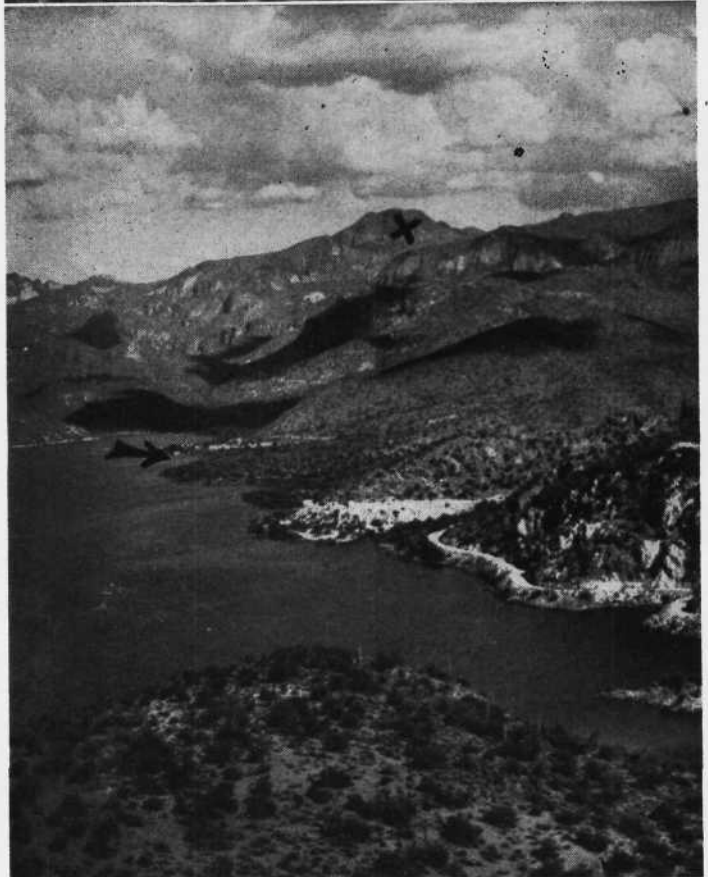
Many decades before even Geronimo was born, that hidden canyon had been found by a party of armor-clad Spaniards, one of the small bands which unrecorded in history, marched and countermarched over the 18th century wilderness in search of gold. There they found gold in a rose quartz vein so rich that hand mortaring alone sufficed to work the rock. And in the course of a few months they had a low tunnel following the vein into the mountain from the sunken valley, a comfortable camp and a small rock smelter at a spring that broke out of solid rock nearby. They had to climb in and out of the hidden valley on a rope hung down from above.

The story is that Apache scouts knew of the presence of these Spanish invaders, and were watching them constantly from a well-concealed hideout. The Indians knew that when gold was at stake, the Spaniards were careless of their personal safety, and they were awaiting the day when the miners would have exhausted their powder in blasting operations.

Finally that day came. The blasting was ended and the fortune-hunters prepared to break camp and move the golden treasure that had accumulated. Then the Apaches closed in. They circled the rim of the sunken valley, pouring arrows into the panic-stricken miners, and rolling huge boulders over the cliffs to complete the massacre of the men below.

But the gold could not be destroyed. The glittering store of yellow bullion was stacked like cordwood inside the tunnel. It is believed most of it is still there, although Geronimo is said to have drawn on this store of wealth to buy powder and lead for his raids on the whites who invaded Apache territory.

Geronimo, himself, scornfully admitted after his capture that this same sunken valley somewhere in the towering maze of the mountain that now bears his name was the place where he had vanished from pursuit on more than one occasion. And history records the near-scandal at Fort Sill, Oklahoma, when at last Geronimo had been imprisoned there in 1886, and there plotted his escape. Gold was the mainspring of that plot, gold from an ancient Spanish mine known only to the Indians. And yet the



gold which had been mined there was only as a grain of sand to the desert of gold still left in the rose quartz vein. Perhaps it is so. Proud old Geronimo was never known to lie!

A certain spring at the foot of the mountain (in LaBarge canyon) was the key to the treasure, Geronimo once confided to a fellow prisoner at Fort Sill. For that spring was really fed by the one high up in the sunken valley. By following the water in its devious meandering over and through the mountain of solid rock a white man might come again upon the mine and its horde of gold. But Geronimo very well knew that no white man could successfully trail such a tenuous clue.

Once in the 1920's that fabulous valley was reported to have been seen by Charlie Morgan of Phoenix, while on a mountain-climbing trip up the Apache Trail. Morgan said he even climbed down into it on a rope and then found a twisting tunnel cut by erosion—through the lower enclosing wall of the sunken valley, through which he could just barely squeeze his way out again. He had stumbled upon the valley by accident for there was nothing to indicate its presence, he said, until he had actually come upon the rim of it.

Its location, Morgan estimated, was between four and five miles east of the prehistoric burial mounds and walled-up terraces in the Superstitions now known as Garden valley. But Morgan, in his hurry to find a way out again from the sunken canyon into which he had dropped, gave only brief attention to the camp remains and scattered bones and an 18th-century Spanish musket which he found lying upon the ground there. So he did not discover the fabulous vein and golden treasure so near at hand!

There is said to be other Indian treasure, too, in the Superstitions, and not so far across the mountains as the crow flies. A veritable hill of silver ore which must be almost solid metal in places, a series of erosion-cut pillars of galena somewhere in the bed of lower Queen creek, covered now by flood debris but once in a lifetime washed clean to glisten in the bright Arizona sun.

The Apaches call it the "Silver Antelope," doubtless because of the shape of one of the pillars. And when David Hawkins' uncle, working out of Phoenix in 1890, came upon an Apache youth pinned with a broken leg under his horse and nursed him back to health, the youth's father told him about it. But it took Hawkins' uncle just fifty years to find it, in 1940.

"A mountain of native silver and lead, thousand of tons," he told Hawkins. "You can take an axe and chop it. It seemed unreal, but there it was. And I too old for it to do me any good now."

The prospector was 90 years old, and had made his stake. And so when he had gone east to retire, he looked up his nephew in Illinois and gave him the chance at fortune which he couldn't use himself. He drew a map, "made with compass and back-tracked to a sure known point." Two weeks after his discovery he had tested the map by retracing his steps back "mark for mark and had found nothing but sand and wash gravel. Underneath was the silver," he explained. "Then I knew what Apaches meant. My partners and I had crossed there dozens of times." And that is all David Hawkins will tell of it. For one day now he hopes to be able to leave his farm and uncover the Silver Antelope and so prove the conviction of all the local miners that there is still more silver in the mountains than ever came out of the fabulous Silver King mine nearby.

There are other reports of gold in the Superstitions. Ed Lambert, who once worked as a cowman in that region, is the source of one of these stories. Lambert told of finding a chunk of white quartz with stringers of gold while rounding up cattle at the head of Needle canyon. "I was interested only in cattle in those days, and knew nothing about mining," he explained.

Lambert did not recall whether the quartz had been picked up as float, or was broken from a temporarily exposed ledge—and later when he sold his cattle business and acquired mining interests, he wished that he had been more observing as to the location of his discovery.

In more recent times, Wallace McDonald, a cowboy working for Tex Barkley's Quarter-Circle-U ranch found gold while herding cattle down Needle canyon. Somewhere along the way he filled his pockets with rocks to throw at the steers he was driving toward the First Water line camp near Goldfield. He still had a few of the rocks left when he finally rode over to the Goldfield mining camp that evening.

As usual, most of the men who worked in the Goldfield mines were there. And after casual greetings and a drink all around, McDonald felt ready to rib the miners a little.

"So you think you got ore here," he said. "Well, take a look at this."

And from his chaps pocket he pulled a piece of rock which he had picked up that day in Needle canyon, and handed it to one of the men. He, himself, he had always freely admitted, wouldn't know gold if he fell over it.

"Son," exclaimed the miner, his eyes popping out, "you can stop punching cows right now."

"Why should I do that?" laughed McDonald. "You ain't taking me seriously?"

"Don't have to," said the miner, while the others crowded around. "This here speaks for itself. It's gold ore, lousy rich!"

"Gold?" echoed McDonald, stunned.

And the joke turned out to be on him, for search as he might he could never find where it had come from.

The thunder gods keep their secrets well!

RECLAMATION BUREAU HAS PLANS FOR 193,300 NEW FARMS IN 17 STATES

More than 400 irrigation projects in 17 western states are included in a vast program of development planned by the U. S. Bureau of Reclamation to provide farming opportunities during the post-war period. The estimated cost of the total program is \$4,790,000,000.

These plans were disclosed recently when Goodrich Lineweaver of the bureau's operations and maintenance branch appeared before the house irrigation and reclamation committee to testify in connection with a bill which will give war veterans preference rights in obtaining these lands.

Lineweaver said the program would provide for the creation of 193,300 new farm units, and would provide supplemental irrigation water for another 106,170 units.

The land rush will include thousands of men with other than western background, Lineweaver said.

Many of the 3,000,000 now employed in the west's war industries will want to turn to the soil, he declared, and the bureau has received many inquiries from soldiers of eastern states who plan to make the west their home.

Under Public Law 434, approved by congress September 27, 1944, veterans of World War II are entitled to the same preference previously given to veterans of World War I in the matter of securing public lands under the Homestead, Desert Land and 5-acre Tract laws. Under this provision, when public land is made available, applications made by veterans within 90 days take preference over other applications. Also, in proving up on homesteads where three years' residence is required, time spent in the armed forces is credited in lieu of residence on the land, up to two years.

Information and application forms in connection with the filing of entries on 5-acre tracts may be obtained from any U. S. District land office. The following district offices are located in the southwestern states: New Mexico—Federal building, at Las Cruces and Santa Fe. Arizona—Federal building, Phoenix. Utah, Federal building, Salt Lake City. Nevada—Federal building, Carson City. California—Federal building at Los Angeles and Sacramento.

To meet the increasing demand for 5-acre "Jackrabbit Homesteads" on the Southern California desert, the U. S. Land office is now engaged in extending its surveys in the 29 Palms area. Roger F. Williams with a field crew of five men is doing the survey work.

Four sections of land at the old mining townsite of Ryan in the Death Valley area were opened to homestead applications during the early part of May. Service men were given a priority in the filing of applications.

"Indian relics, like gold, are where you find them." Marshal South had good reason for using this prospectors' slogan upon the recent discovery of an Indian mescal roasting shovel. For various members of the family during the past 14 years had walked past, around and by the spot where the ancient relic lay. Many times they must almost have trod upon it. Then casually, on a wood hunting expedition, Rider's young eyes spied it, and it was added to his burden of fire wood, later to be inspected and classified by Marshal as a fragment of an implement which the early dwellers on Ghost Mountain had used in their mescal roasts.

Desert Refuge

By MARSHAL SOUTH

BUTTERFLIES are drifting across the ridges of Ghost Mountain like skirling eddies of gaily painted snowflakes. Where do they come from, so suddenly and mysteriously, these dainty little sprites that are drifting and tumbling everywhere upon the desert wind? Most of them are a reddish tortoise-shell. But there are all sizes and colors, down to the very tiny fragile-looking ones that flutter the bushes with their yellows, whites and pale blues. Rudyard has his nose buried deep in reference books. But it is a hopeless job. As well attempt to classify sunbeams from a crude lithographed chart as to identify all these fragile desert fairies by consulting pictures and descriptions.

Yaquitepec is richer by a new desert relic. A grey inconspicuous fragment, but one that is a treasured link in the chain that binds Ghost Mountain to the misty past. It arrived the other day in a howling windstorm, tucked away in one of the baskets of fuel which Tanya, Rider and Rudyard had laboriously boosted up over the gale-whipped boulders of the southern ridges. When they reached the house Rider picked a queer, irregular fragment of grey, termite-nibbled, flat, ancient wood out of his burden and presented it for inspection. "Now," he demanded, "what is that?"

I turned it over in my hands. It was light and weathered—and very old. The desert sun had sapped all the weight and strength out of it. About 11 inches long, at its longest projecting point, it had a width, in the broadest portion, of about seven inches. Sun, storms and termites had wrought havoc upon it. Yet at one end there still was a trace of human handiwork in the shape of a quite apparent tapering in thickness, and there were unmistakable signs of wear from vigorous use. Although tattered and worn and ghostly, the ancient fragment, to my eyes, fairly shouted its identity. "That, my son," said I, with all the impressiveness I could muster, "is a portion of the blade of an ancient Indian mescal roasting shovel."

They all gathered around eagerly. It is seldom, in these days, with two lively sons and a remarkably active and critical young daughter, that I have much chance to pose as the "expert" on anything. So I seized upon my one golden moment. With befitting dignity I expounded upon the probable age of the shovel. Of how it undoubtedly had been broken while in use by some too ambitious wielder in the dim days when Ghost Mountain was ranged by dusky Americans who had no inkling of the coming of the white invader. It made a good lecture, and probably a fairly correct one. For the fragment undoubtedly was



*Long forgotten mescal roasting hearth on Ghost Mountain.
Wash drawing by the author.*

very old. With the resultant enthusiasm we all made a pilgrimage to the spot, not so far from the house, where the fragment had been discovered. This was close by an ancient mescal roasting hearth. One so old that it was all overgrown with tall ocotillos and a generous sprinkling of cholla cactus. From the site we could look far down the mountain to where, in the distant valley, there once had stood a populous Indian village. Standing there, with the evidence of the old mescal hearth at our feet and with the grey fragment of the ancient shovel in our hands, it was not hard to slip back into the past. Into the dim days when the drifting, shy ghosts that now haunt the caves and ridges of Ghost Mountain were not ghosts, but lusty flesh and blood.

Our fragment of Indian shovel is the only evidence of these tools which we have discovered on Ghost Mountain itself. There have been digging sticks—which are companion implements to the shovels in mescal roasting—but so far no complete shovels. There may be a dozen perfect specimens lying hidden away in crannies under the rocks within sight of the house. Indian relics, like gold, are where you find them.

And in case you should happen upon any of these relics of old mescal roasts while prowling in the desert, it is well to know that the complete, unbroken shovels are of varying sizes, but usually are about two feet long, from the tip of the handle to the tip of the blade. In shape they are something like a crude canoe paddle, though with a squarish tip. The width of the blade is eight inches, more or less. And the implement is all in one piece, the round, stick-like handle being simply a trimmed down continuation of the blade part. Evidently they were fashioned, with infinite labor, out of flat slabs of wood split from trees, perhaps obtained in the mountain canyons. The best place to look for them, as for the mescal digging sticks, is in crannies under boulders that are not too far from the ancient roasting hearth sites.

Tortoise herding again has become one of the daily occupations of our young Yaquitepecos. For all our desert tortoises woke up promptly, as though by an alarm clock, on the first calendar day of spring. And they brought with them healthy appetites. Victoria, who loves to feed them tid-bits, finds the task an exciting one. All of our pets have varying tastes. I have heard of desert tortoises who, in civilization, became so high-toned that they would eat nothing but rose petals. Ours are not yet quite so educated—being by no means exposed to the perils of civilization. They do, however, fluctuate between filaree, prickly bush, rattlesnake weed, ancient corn husks and old and weathered fragments of packing cartons.

Rudyard, tucked away yesterday in a sunny hollow among the boulders, day dreaming to the steady harping of the wind as he roved meditative eyes over the landscape, discovered a hum-

mingbird's nest—sighting it as it swayed to and fro, a tiny camouflaged grey dot, on a branch of juniper. It was last season's, of course. But we never had seen it before, notwithstanding the fact that it was so close to the house that we could have dropped a lariat loop around it from our back window. How perfect is the art by which the creatures of the wild conceal their habitations. Rudyard, who long has had a burning desire to find one of these nests, was thrilled over his discovery. This morning he has gone with sketchbook and pencil to make a pictorial record of it. We have hopes that last year's experience may influence the tiny jeweled builder to make another nest in the vicinity this season.

Chances are good. For our bird world has been very active around Yaquitepec since the weather warmed. And we are glad that, despite other pressing chores, we managed to get up several new bird houses in time for spring. One of them, Rider fashioned from chicken wire and cement. Covering the wire framework with a cement stucco and painting the roof a cheerful red, above whitewashed walls. Set on lengths of old iron pipe—to block the evil designs of squirrels and other climbers—these houses drew excited comment from our feathered friends. There was much rivalry over the question as to "who was to have which." So far, however, there have been no real fights. And our chief worry is that the Flycatchers, who always arrive much later, may be greeted with rows of "No Vacancy" signs, for the "housing situation is acute." Even the Guard House—the little sentry box, fashioned from a mescal butt, thatched with wide leaves and set upon one end of the last warning sign that protects the Yaquitepec trail—was taken early. The sharp-eyed little sentry of our outpost is already on the job.

Yaquitepec's contact with the outside world, maintained by the many welcome letters that come drifting in, is a happy one. Yet, every once in a while, real problems come along by the same route. These are in the form of queries from correspondents who feel deeply the urge to break loose from a machine patterned world and to strike out for themselves in "some unspoiled field" that will be "close to nature."

This is a natural and healthy desire. And one that is a bright gleam upon the drab curtain of lock-step civilization. But these questions are always almost impossible to answer with any degree of satisfaction to the questioner. The reason is that every problem of this kind is different. It all depends upon the circumstances and upon the qualifications of the particular individual. It is a question, too, of values. Of what one values most—freedom and independence; or money, comforts and gadgets. That anyone who really wants to, can break away from civilized props and carve out his own life in "the great open spaces" has been proved many times. But the unknowable factor in each case is just how sincerely does the dissatisfied individual want to change his lot. Many think that they do—and really don't. Deep in their hearts they would be horrified to face the prospect of throwing overboard almost every one of the advantages to which they have been accustomed, and to engage in a life of hardship and scanty monetary reward. Few can stand the test.

Yet it is to those few that America—that the whole human race—owes its vital life spark. It was men and women who had ideals greater than money and comfort who won the West. Bare-handed, friendless, moneyless and alone, the man who has a vision of freedom and of self reliance will go forth against all adversity and against the gibes of his fellows. This is the breed that builds empires, that blazes the broad trail that others, the weaker, the more timid and the more crafty, follow. Not in money does the pioneer take his reward. He takes it in something infinitely finer—in freedom, in the satisfaction of being his own man, no chattel dependent upon the whims of another. It is to these freedom-loving souls who will not march docilely in the ordered ranks to the piping of those who would sway them, that all freedom owes its life. They are the bearers of the sacred

fire. When any nation has succeeded in crushing out these independent souls—in bludgeoning them down with the rest into the conventional mould—then that nation is dead. Dead as are the nations of the ants, whose every ant hill—held up so often as an example of industry by uncomprehending philosophers—is a ghastly illustration of universal slavery and frozen progress, born of the crushing of individuality.

This then, is the answer to those who query. Balance your values. Make your choice, without illusion and with eyes open to what lies ahead. And if it be that in you stirs that spark of divine fire which must have freedom or perish, then fare forth with an untroubled heart. And the blessing of all the gods go with you. For the world has need of you.

More than once, from wanderers whose chief happiness it is to explore old desert trails, gleaning a treasure of chips and sherds of ancient pots, has come the query, "Why the almost universal round shape, or modification of the round shape, for the Indian olla? Didn't they know how to make other shapes?"

Yes, they did. But there is a good reason, in fact several good reasons for the globe design. In the first place, using a crude native clay, with a high degree of shrinkage, there was much less danger of cracking during drying and firing with round shapes than with those having sharp angles. A clay "bubble," which is really what an olla is, shrinks inward upon itself in an even manner. Strains and stresses, which are very pronounced in flat-bottomed pots with straight sides, are largely avoided.

This was one good reason. Another was that a round pot, upset, will not crash. It will just roll without damage to itself. An important factor when one considers the extremely fragile nature of Indian fired pottery. There is, however, another excellent reason for the shape. A round cooking pot, used in camp cookery, as the Indian used his, has great advantages. By means of scraping a very small hollow in the earth it can be set up to stand firmly. And, with the fire built around it, no stones or other raising devices are needed; the bulge of the pot gives it full heat. Further, when liquid and solids are cooking together, as in the case of mushes or stews, there is much less danger of burning. The solid matter which may settle and pack to the bottom is in a relatively cool zone—the portion of the pot in the earth hollow. The main heat is concentrated around the bulge of the pot, higher up, where the contents are likely to be most liquid and freer moving.

Winds slatter across the roof of Yaquitepec and make desert music through the chinks. This desert music of the wind is something which has a grip upon the heart that is peculiarly its own. All true desert wanderers and dwellers know it. It is inseparable from lone spaces and isolated, sun-blistered desert shacks. Mournful? Maybe—but not to those who understand it. *Chittery-squeak . . . chittery-squeak . . . Whooo sh ssh . . . Urrr urr urr . . .* Miles and miles of creosotes and lonely dim buttes, blurry in the rush of the wind. The wan sunlight of late afternoon striking in spots of round light through nail holes in walls and in roof and lacing bars of dust-speckled gold through silent interiors. Ashes in the fireplace, hiding in the shadows. Blackened pots and skillets upon the stove. And beyond the windows the long long leagues of the desert greying into dim distances in the rush of the sobbing, never ceasing wind.

I WILL

*I will! And nothing need prevent.
I will! To whatsoever extent
My proud ambitions highly soar,
I know, in God's unbounded store
I still shall gain, if but I do
The noble, generous and true.*

—Tanya South

Sunflower Pageantry

By MARY BEAL

HERE'S the grand-prize winner for lavish color, familiarly known throughout its realm as Desert Sunflower. The most bedazzling sweeps of flowery gold I've seen in all desert areas were emblazoned by this wide-spread species. I'd like to show you a few extra-special stretches of its festive abundance. Our first wayfaring takes us eastward from the central Mojave desert and very soon the increasing frequency of Sunflowers will be noticeable as we roll along, until just beyond Pisgah crater they multiply into a magnificent expanse of shimmering splendor. Many times I've journeyed there when the road was like a causeway traversing a golden sea, the waves of scintillant color billowing against the bordering mountain slopes, the whole terrain between the ranges, from Mt. Pisgah almost to the outskirts of Ludlow, flooded by myriads of Sunflowers. After an interval of a few miles a recurrence of this superlative profusion gives an encore of the breath-taking spectacle even more extensive than the first one, continuing for 15 or 20 miles, perhaps more. Our eyes were too busy taking in the glory of it to note exact distance but I know Amboy was in sight before it receded.

Passing Amboy crater, which appears little more than a stone's throw from the highway, a road of sorts leads to the cinder cone. Let's follow it to the margin of the black lava bed. To save tires it is wiser to leave the car there and walk the rest of the way, treading a devious sandy course between the jagged ridges of lava. If it's springtime the drifts and nooks of sand harbor little variegated gardens that are beguiling, but our chief interest lies ahead.

Topping the last lift of the rugged bed there bursts into view a picture to bring gasps of delighted surprise—a long lake of Desert Sunflowers rimmed on its far shore by the black crater and long high lava flows, a striking contrast to the sheet of brilliant color stretched out on either side. It hasn't the vastness of those other sweeps of color but the perfect setting puts the finishing touches to a picture to hold in memory. To complete the experience one should plunge into the sweet-scented yellow flood and wade through to the other side for a different outlook.

Another memorable assemblage of Sunflowers makes Death Valley its rendezvous. If you have been there in springtime (by the way, spring comes early to the Sink) you can never forget its glorious sheets of gold. The whole floor of the main basin (except the salt beds and the long white ribbon of the Amargosa's alkalinity) a sunny mass of Sunflowers, hosts of them climbing the gravel fans and the lower hills, densely crowding the draws. I think of it as a glory of gold, patterned at the borders with purple and violet Phacelias.

The Colorado desert has some fine tracts of Sunflower profusion, especially that along the highway between Whitewater and Mecca but I have seen none as outstanding as the ones mentioned above.

In addition to their role of beautification their flowery expanses make splendid bee-pastures, and their seeds furnish a bountiful food supply for the bird and rodent population.

This sunflower once was classified with the Encelias but now bears the name

Geraea canescens

The rough purplish stems, clothed with long, firm white hairs, average from 1 to 2 feet in height, though occasionally several inches higher, often with a few branches from the base, terminating in open clusters of bloom. The hairy 3-nerved leaves are alternate and more or less toothed, 1½ to 4 inches long, those near the base larger, diminishing in size as they ascend to mere



Desert Sunflower, *Geraea canescens*. Its myriad fragrant blossoms form golden seas on the desert in spring.
Photo by Mary Beal.

lanceolate bracts. The showy fragrant flowers tip rather long peduncles, the heads 1½ to 2 inches across, with rather wide golden-yellow rays, the disk a trifle deeper shade. The narrow green bracts of the short involucre are strikingly outlined by a dense margin of white hairs. The flat wedge-shaped achenes are black with white margins, the upper corners continuing into 2 slender awns, the black somewhat obscured by silky white hairs, especially dense at the sides. You'll find this exuberant species from southern Utah and Nevada, through Inyo, Mojave and Colorado deserts, to western and southern Arizona. Its time of glory generally comes in March and April but under certain favorable conditions it may rush the season considerably. A few years ago on a New Year's day trip to Boulder Dam we saw many Desert Sunflowers in bloom between Yermo and Baker. At times it may be in bloom as late as June but not as sumptuously as in spring.

Geraea viscida

This coarse, sticky-hairy, acrid plant might be called the Poor Relation of the highly prosperous Desert Sunflower. Its few stout erect stems, 1½ to over 2½ feet tall, are quite leafy, nearly to the few hemispherical yellow flower heads, which are an inch, more or less, broad but have no rays. The oblong involucre bracts are densely glandular. The leaves are sessile, oval or oblong, with eared or cordate bases, coarsely and irregularly toothed or only obscurely so. The whole soft-hairy plant is disagreeably glandular and very distasteful to handle, not only at the time of contact. The sticky bitterness has a tenacity which hangs on unpleasantly a long while, enough to make it an outcast. Its desert range is restricted to the southwestern edge of the Colorado desert, growing on dry slopes of bordering mountains at an elevation of 2000 to 4000 feet.

DESERT QUIZ

Here is Desert Magazine's monthly test for those who think they know—or would like to learn more, about the great American desert country. The subjects include geography, history, mineralogy, botany, Indian life and lore of the desert. If you score 10 correct answers you are ready to graduate out of the tenderfoot class. Fifteen gives you a desert rat rating, and if you know 18 of the answers you are qualified for the desert brain trust. Answers are on page 36.

- 1—Butterfield is a name best known in connection with—
Gold mining in the West..... Overland stage operation.....
Indian warfare..... Negotiation for the Gadsden Purchase.....
- 2—A *Balsa* was used by the Colorado river Indians as—
A ceremonial headdress..... A vessel for storing mesquite beans.....
A weapon for killing game..... A craft for crossing the river.....
- 3—The Spider Woman was— A mythical character in Indian legend.....
The name of a popular Southwestern novel.....
The wife of a Navajo medicine man.....
- 4—The ore from which mercury most commonly is derived is— Cinnabar.....
Manganese..... Hornblende..... Muscovite.....
- 5—The salt in Salton Sea, California, comes mainly from— Periodic tidal waves
from the Gulf of California..... Salt beds in the bottom of the sea.....
Drainage from alkali lands in the surrounding area.....
Seepage from salt mines in Chocolate mountains.....
- 6—The University of Arizona is at—
Florence..... Flagstaff..... Phoenix..... Tucson.....
- 7—Motoring from Las Vegas, New Mexico, to Denver by way of Trinidad, Colorado, one would go over— Daylight Pass..... Raton Pass.....
Ute Pass..... Cajon Pass.....
- 8—A mescal pit was used by the Indians for— Storing grain.....
Concealment in war..... Trapping rabbits..... Cooking food.....
- 9—Mexican Hat is the name of a little rock formation in—
Utah..... Arizona..... New Mexico..... Nevada.....
- 10—Manly's *Death Valley* in '49 was written by— An army officer.....
A California-bound goldseeker..... A trapper..... An archeologist.....
- 11—Juniper berries are— Red..... White..... Light blue.....
- 12—A paleontologist is interested primarily in— Indian relics.....
The tree-ring measurement of time..... Fossils..... Study of desert snails.....
- 13—To see the Wasatch mountains one would go to—
Santa Fe..... Tucson..... Salt Lake City..... Death Valley.....
- 14—The Virgin river feeds into— Lake Mead..... Great Salt Lake.....
Elephant Butte reservoir..... Salton Sea.....
- 15—Bisnaga is the Spanish name for— Hedgehog cactus..... Barrel cactus.....
Prickly pear cactus..... Pincushion cactus.....
- 16—The metal most largely recovered from meteorites is—
Iron..... Nickel..... Silver..... Lead.....
- 17—Lowell Observatory is located near— Carson City, Nevada.....
Banning, California..... Flagstaff, Arizona..... Silver City, New Mexico.....
- 18—Leader of the historic Spanish cavalcade in search for the Seven Cities of Cibola was— Cortez..... Escalante..... Coronado..... Garcia.....
- 19—The Death Valley recreational area is a— National Park.....
National Monument..... State Park..... Indian reservation.....
- 20—William A. Brophy is— Indian commissioner.....
National Park director..... Chief of the Bureau of Reclamation.....
Head of the Forestry service.....

Sez Hard Rock Shorty

of Death Valley



"Sure, we got fresh eggs to sell in this store," exclaimed Hard Rock Shorty. "Inferno's got the best eggs in Death Valley. They're from Pisgah Bill's chicken farm. He brings 'em in fresh every day."

Shorty walked behind the counter to wait on the customer. "Clerk's jest stepped out a few minutes, but I can count out yer eggs."

"I remember the summer Bill started that chicken farm. He's always tryin' some new scheme to get rich, an' he bought in a lot of them layin' pullets. Figured he'd quit prospectin' and supply the minin' camps with eggs."

"Good idea, too, only Bill had a lotta trouble the first summer. The well on his claim went dry, and he had to start haulin' in water from that mineral spring up in Eight Ball crick."

"Next day Pisgah came rushin' over to the store madder'n a bee in a paper flower bouquet."

"Come over to my place, Shorty," he exclaimed. "Somepin's the matter with them chickens. They're cacklin' around the hen house like a lot o' bluejays — and them eggs. You oughta see them eggs."

"So Bill and I walked across the gulch, him a hurryin' like it was all important. He took me in the hen-house, and sure enough, the eggs in the nests was puckered up like walnuts, an' not much bigger'n cactus wren eggs."

"H'm, I sez to Bill. What yu feedin' 'em anyway?"

"Same as always," said Bill.

"Then I remembered somethin'. Where yu gittin' yer water," I asks.

"Well yesterday, I started haulin water from the hole in Eight Ball crick," he answered.

"Yu'd better start haulin water from somewhere's else," I told Bill. "That's that Alum spring. I had a mule onc't that got away and took a drink of that water, 'an it puckered up his face 'til he couldn't eat, and I had to shoot him to keep him from starvin'."

LETTERS...

Growing Desert Lilies . . .

Newberry, California

Gentlemen:

Mr. P. B. Johnson of Newberry tells me he propagated the Desert Lily seed you mentioned in your April number.

He says the seed from the lower stems are the only ones he has succeeded in growing. These seed are sown in very sandy soil and never watered. He has sent seed to the coastal regions, but they never matured sufficiently to bloom.

He also stated that it takes from three to four years to raise a blooming plant. Desert Lily is numerous in this area, but the writer never succeeded in growing a plant from a transplanted bulb.

A READER

Powell and Five Men . . .

Fairfield, Iowa

Dear Sir:

I have made several trips in the western mountains and desert—the greatest thrills of my life.

I enjoy remembering the history of certain places and events. Therefore I am writing about Major Powell's excursion down the Colorado in May, 1869—hoping that sometime you will clear up this discrepancy:

National Parks Portfolio states: "Nine men accompanied Major Powell. Three men deserted the day before his faithful half dozen floated clear of the canyon."

April '45 Desert Magazine states: "Eight men were with him. Three men separated two days before, etc."

G. K. DUNKEL

The writer of the Desert Magazine story, Charles Kelly, has given the following clarifying information:

"The opening paragraph of my story was technically wrong, as there were nine men with Powell when he left Green River, Wyoming. But one of them left the party at Uintah agency, so there were only eight with Powell when he went through Grand Canyon, and only five of them floated clear of the canyon after the Separation Rapids episode.

"As to the elapsed time between Separation Rapids and the end of the canyon, Dellenbaugh writes: 'By night they had run entirely out of the granite, and at noon the next day . . . they emerged at last from the depths of the giant chasm.' Therefore the separation took place two days before Powell left the party, rather than one day.

"Hope this makes matters clear."

CHARLES KELLY

The Blasting Was Stopped . . .

Lemon Grove, California

Dear Sir:

On Easter Sunday a party of us made the trip to Hidden springs and Sidewinder canyon in California's Orocochia foothills. What we found there will be a shock both to you and to Desert readers.

The picturesque entrance to Hidden Spring canyon was being destroyed by the contractor building the Coachella branch of the All-American canal. The north side of the entrance had been blasted out to some extent and the south side drilled for blasting.

We reported our findings to John Hilton. He was indignant, as we had been, and stated he would try to stop the destruction of this scenic spot, which is protected by county, state and federal laws.

We found the spring area badly littered with bottles and cans, and the water undrinkable—this condition brought about by workers who had been camping there.

D. L. HEYSER AND PARTY

Mr. Heyser: John Hilton immediately protested to the contractors and was assured no more damage would be done at Hidden spring.—R.H.

First Worker to Use a Stone Tool . . .

Sinaloa, Mexico

Dear Mr. Henderson:

When I visited Corn Springs about 1930 one of the special attractions was a remarkable colony of thread-waisted wasps. The species was *Sphex yarrowi*, if my memory serves well after all these years. I remember of lying on the ground for hours observing the activity of these glistening and somehow sentient beings. Hundreds of them were occupied in digging their burrows, which perforated like a sieve an expanse of open ground near a small cabin. The air seemed to vibrate with the arid buzzing sound they made as they dug. They contended among themselves for rights only they could "conceive." In flight they would occasionally dash against a neighbor, the small click of contact coming distinctly to my ears, as the small silvery bodies flashed in the sun before my eyes. They were all females.

When a hole was dug and the nest prepared in the bottom several inches below the surface, the wasp went hunting for worms which she paralyzed with her sting but did not kill. She laid her egg upon one of these anaesthetized worms of provender, leaving the hatched offspring to grow up alone in dark and solitary but safe confinement.

So the wasp worked away coming and going. Always before leaving her nest for

another foray she closed the opening with a small pebble selected to fit just so. Dust was kicked over the pebble until no visible trace of the opening was left. Most remarkable was the final plugging of the hole. Seizing a second suitable pebble in her strong mandibles she tamped down the dirt over the hole, her long slim body rocking like a teeter-totter before each sharp hammer-like blow.

So far as we know this is the first animal to use a tool, for it has been living several million years at least with about the same bodily structure, correlative with habits. Certainly her use of a stone tool far antedates the Chellean pick, a comparable early human tool. If you go to Corn Springs again in the spring, look for these Thread-waisted Wasps and I am sure you will find some still carrying on as before.

HOWARD SCOTT GENTRY

Friendly Denizens of the Desert . . .

Brooklyn, New York

Desert Editor:

Some time ago on the Arizona desert, a couple of GI's captured a venomous rattler that was prowling around the camp. By some expert maneuvering, it was finally placed in a wire cage used for catching flies around the messhall. But just looking at a poisonous snake hardly sufficed for camp excitement.

Then somebody got the idea that a scorpion—if one could be found—would make a worthy opponent for the rattler in a battle to a finish. As luck would have it, a scorpion did turn up among the men in a different sector of the camp.

Bets were made. Word of the impending fight spread like wildfire. Practically every soldier not on duty that day planned to attend the battle of the desert. The impromptu "ring" was the open back of a truck. The scorpion was brought in by its "handlers" in a reinforced cardboard box; while the rattler made its appearance in its original wire cage. An ingenious soldier hopped onto the truck and announced: "Men! Introducing the two deadliest beasts of the desert—for the world's championship!" Using the gestures of a professional boxing announcer, he pointed to the rattler. "In this corner," he shouted, "the battling Rattler!" Frenzied voices and applause filled the air. "In that corner," he continued, "the deadly Scorpion!"

As the cheering of the audience died down, the handlers of each of the contestants opened the cage and box respectively. The rattler was the first to appear. The scorpion, after a bit of coaxing, finally emerged. They both stared at each other rather blandly. Except for the slight movement of the rattler's head, there was not a semblance of warfare in either one.

The GI's began to yell: "We want action! C'mon an' fight!" But the contestants stared at each other as if it was love at first

You Don't See What You're Looking At



The science of deception has been developed to a high degree.

Many a soldier has been startled when the tree next to him got up and walked off to lunch.

Sailors get quite a shock when a distant wrinkle in the ocean turns out to be a sea-going vessel.

Camouflage is the art of disguise brought up to full war strength. It's based on the technique of the old-time beard-wearing detective.



Another type of false pretense is the booby trap. Did you ever stop to think that an automobile could be a form of this deceptive device?

Your faithful old vehicle may appear innocent enough, but suppose one of the hidden parts has enjoyed extended neglect.

Suppose lack of lubrication has put this part in a snappy condition.

The sudden breaking of just one vital joint might prove dangerous.



Cars are about twice as elderly this year as compared with normal times.

They need attention now more than ever. And one of your best safeguards is regular Shelllubrication.

Shell Dealers and Shell Service Stations have the know-how and the equipment to render an up-keep service specially designed to help your automobile endure the duration.

The job takes only a few minutes and it can do a lot toward making your car as safe as it looks.

Drive in for Shelllubrication today!

—BUD LANDIS

sight! For 45 minutes neither fang, sting—let alone, venom—split the atmosphere! The audience whistled, implored, shouted—but to no avail. It was the most disappointing spectacle ever witnessed by a group of fighting men.

To this day no one knows whatever became of the scorpion. But somewhere in the South Pacific a sergeant is battling the Japs with a dagger whose handle is covered with the skin of a certain poisonous Arizona rattlesnake!

MALCOLM HYATT

Paging Horsethief Bill . . .

Sacramento, California

Dear Sir:

Your dandy magazine comes to me as a gift from one you identified only as "W.J.K."

Now I know only one W.J.K.—William (Wild Bill) J. Kilmartin—a horsethief and generally questionable character who, until recently, has been wanted by the sheriff of Modoc county, California, for various and sundry charges including smuggling arrowheads and petrified pine nuts out of the county.

The statute of limitations has run and the charges are dropped. Can you tell that to Bill for me, and assure him he can now cut off his whiskers and shed his anonymity. Tell him I'll also forgive his jumping my claim up in the Virgin opal fields.

He's a cantankerous and eccentric old rat, but I miss him nevertheless and would like to pard up with him again. There's a lot of desert to prow over yet. I don't know where he is but heard he was hiding out somewhere down Death Valley way.

Can you get this through to him somehow. Tell him I come south about once a month and would like to make a rendezvous.

G. F. (Kelly) ENGLE

Prehistoric Lake Cahuilla . . .

Mecca, California

Editor, Desert Magazine:

Can you tell me when the name of old Lake Cahuilla was changed to Salton Sea? Thank you for this information.

VANCE SHEFFIELD

Mr. Sheffield: Lake Cahuilla occupied the below-sea-level basin of Imperial valley in prehistoric times. The records of its existence are found in the water line which is seen at Traver-tine point and other places. Also in the travertine deposits and the numerous Indian campsites located along its shore line.

Lake Cahuilla is believed to have existed about 700 or 800 years ago, and had evaporated long before the first white man's exploration of this region.

Salton Sea, while occupying the lower levels of the same basin, came

into existence when the Colorado river broke through its levees and flowed through Imperial valley in 1905-6-7, long after Lake Cahuilla had disappeared.

—R. H.

Indian Rock Circles . . .

San Diego, California

Dear Sir:

I enjoyed the article "Oasis of the Cabbage Trees" which appeared in the March issue of Desert Magazine very much. There is one comment I would like to make however regarding the item about the series of rock circles found on the bluff.

The following story is about a similar arrangement of rocks which I thought you might be interested in hearing.

Several years ago, almost thirty to be exact, my parents lived on a homestead near Geraldine in eastern Montana. This section of Montana is strictly plains country broken only by an occasional coulee. While hiking over our place one day we discovered a series of these rock circles such as you have described in your article. They were placed along the coulee on the higher raises of ground which commanded a view of the entire country for miles around. The rocks used in these circles were about eight to twelve inches in diameter and the circles themselves about ten feet across. There were several of these circles together which formed a semi-circle.

My father began at once making inquiries about the strange rock formations and was informed by the old timers in the community that these rocks were used by the Blackfoot Indians as weights around the edge of their teepees. This explained the reason for the large number of circles in one location and indicated that an entire tribe had made camp there. It seems that the explanation for the rocks still being in such perfect circles after many years was the fact that the teepee had been gathered together from the center leaving the rocks in place. The tribes usually broke camp hurriedly because of enemy approach and trekked on to a new site to make camp.

It is quite windy in that section of the country and the rocks were used around the edges of the teepees to prevent their being blown over. These rock circles were always found on higher ground which allowed the Indians to view the entire horizon for the approach of the enemy.

I do not know how true this story is, but we have always considered it quite authentic because the Blackfoot Indians are still in existence in Montana and the old timers who told my father about these rock circles had received their information from these Indians. Whether it be true or false I thought it might be of interest to you and it is a story I shall always vividly remember as one of my most interesting childhood experiences.

VIRGINIA FORBES

HERE AND THERE... on the Desert

ARIZONA

Arizona Projects to Top Billion . . .

YUMA—UP dispatch reveals bureau of reclamation plans to spend \$1,268,219,000 in Arizona, more than is budgeted for any other state. Work already has started on two of the 19 proposed power and irrigation projects—a power installation at Boulder Dam and canals and pumps on 8500 acres of the Gila-Mesa unit. Other projects blueprinted include \$414,400,000 Central Arizona irrigation project, \$476,000,000 Kanab Creek power project, power and silt control in Bridge canyon, projects at Parker dam, Marble canyon and on Williams river.

It's "Gold Digger Patton" . . .

PHOENIX—Third Army cache seizure of Germany's gold bullion cache brought Gen. Geo. S. Patton a lifetime invitation to the Gold Diggers Ball, annual social event at Camelback Inn. Jack Stewart, inn manager and sponsor of the ball where Easterners dress in their version of western prospectors garb, cabled Patton the invitation, "Because you are established as the world's best gold digger."

Navajo GIs Need Dictionary . . .

WINDOW ROCK—War has demonstrated to Navajo Indians the importance of a written form of their language. Pvt. George Harrison, Navajo soldier stationed in England, recently wrote Supt. James M. Stewart of Navajo Service for a dictionary of the Indian language so he could write to his wife, who lives at Dennehotso, and asked that someone write a letter for her. Stewart sent him the booklet *The ABC of Navajo*, which explains system of writing Navajo developed a few years ago by the government.

Don't Dump Cats on Desert . . .

AJO—Report on wildlife restoration by state game and fish commission indicates that the feral cat (unwanted housecats released by well meaning owners to prey upon insectivorous, song and game birds) is one of the most dangerous enemies of young pheasants with which state is endeavoring to stock several areas. Predatory animal trappers are trying to eliminate these, as well as coyotes, foxes and bobcats. Transplanting of antelope so far has proved more successful, one of the best plantings being in Altar valley south of Tucson.

Among 96 persons sharing \$230,00 fellowship awards by Guggenheim Memorial Foundation in April, is Fred Kabotie, Indian artist of Oraibi.

Tomblers Lodge, at Mormon Lake, 30 miles southeast of Flagstaff, opened May 1 under new ownership of Jess O. V. Winn and Joe F. Merino.

CALIFORNIA

Colorado Water to San Diego . . .

BANNING—Construction on San Diego branch of Colorado River aqueduct started in May. Starting at west portal of San Jacinto tunnel, the 71.5 mile aqueduct will reach to San Vicente reservoir, 18 miles east of San Diego, and will border San Jacinto, Hemet, Winchester and Temecula. Longest tunnel will be in Fire hill, 5300 feet; the shortest in San Vicente, 2400 feet. Aqueduct will cross state highways 17 times. Estimated cost is \$17,500,000. Camp Pendleton, world's largest marine base, near Oceanside, will receive 5,000,000 gallons of water daily from reservoir to be built 2.2 miles southwest of portal of San Jacinto tunnel. Daily capacity of aqueduct will be 129,263,000 gallons.

Alfalfa to be Dehydrated . . .

CALEXICO—Construction of an alfalfa dehydrating plant here was scheduled to start by mid-May, according to plans of Cliff C. Nolder of Santa Ana Dehydrating company. The plant, which should be in operation by October 1, will provide a new industry for this community and a local market for alfalfa growers. Completed plant will handle 300-500 tons green hay daily, dehydrated product to be used exclusively for poultry feed.

29

PALMS

INN



THE HOTEL AT THE
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Single, \$6.75 up
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The war in Europe finished, we've only begun the
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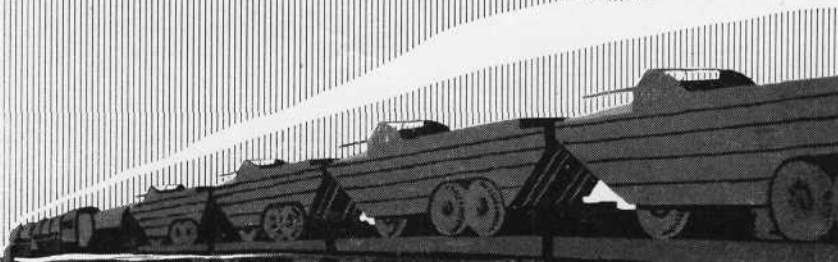
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continue to keep 'em rolling.

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★

BUY AND HOLD MORE BONDS!



More Power For Desert . . .

REDLANDS—A million barrels of fuel oil for Pacific war will be saved annually by construction of a new transmission line from Boulder dam to Southern California by S. C. Edison company, according to H. J. Moulton, company's district manager. Preliminary work has started on the \$4,500,000 project, set for completion before end of 1945. The 125,000 kilowatts of energy to be carried on the line will be generated at Boulder dam and transmitted by existing facilities to Hayfield pumping plant of Metropolitan Water district. From that point, new line will continue 130 miles, possibly through San Geronio pass, then through San Bernardino county to new substation, to be known as

Highgrove, which will supply Riverside, Colton, Redlands, San Bernardino and surrounding territory, supplementing existing facilities. In general appearance, new line will resemble Boulder dam transmission line now seen on Mojave desert, in Cajon pass and in Cucamonga-Chino district—tall steel towers of four-legged design supporting three large-diameter conductors having a steel core and covering of aluminum strands. On top will be a single wire, a lightning arrestor, grounded at each tower. Work camps will be established at Cactus City, Edom, Beaumont and other sites. About 100 miles of road will be built to serve first during construction, and later for patrol cars. About 550 men will be employed at peak of construction.

New Plant for Soft Dates . . .

INDIO—Cooperative Date Growers association has purchased Hacienda cafe building in Coachella to serve as modern packing house to cure and package soft varieties of dates for United Date Growers association. Construction on fumigating rooms and other equipment started in May. Growth of the date industry has necessitated specialized treatment for the many fine varieties other than Deglets. Principle kinds to be handled in the new plant are Saidy, Khadrawi, Halawy and Zahidi.

"Cap" Worthington Dies . . .

WINTERHAVEN — T. J. (Cap) Worthington, 64, died April 7 at Indian hospital in Yuma. Most of his early life was spent in northern Arizona; he was a captain in World War I, had been in Mexico during one of the uprisings, had served as Calexico chief of police. He was interested in mining activities in this country and Mexico and encouraged Yuma Indian craftsmen in producing higher quality pottery. He had written numerous published articles on mining and pioneer days.

Dr. Robert Morton, Arizona physiotherapist, has been appointed manager of Desert Hot Springs, according to American Physio-Therapy Institute, Inc., the new owners.

NEVADA

Wants Workshop for Artists . . .

LAS VEGAS — James Swinnerton, famous painter of desert scenes and creator of "Canyon Kiddies," in urging that Las Vegas provide facilities for artists, claimed that "Art is the best publicity an area can have." He stated, "There is a grand combination of desert and mountains, two very opposite things which meet here and are very good subjects for landscape artists." But, he continued, it is impossible for artists to do satisfactory work in a hotel room; consequently most of the artists who make field sketches in the vicinity, have to make their actual painting later in a studio. He suggested that one of the large hotels or the city provide a simple workshop for artists, where they could set up their easels, with proper lighting, and complete their pictures while still in the area.

Acres and Acres of Flowers . . .

LAS VEGAS—Greatest display of wild flowers "in a long time" was reported late in April by Gordon Baldwin, national park service naturalist. Extensive displays were found in El Dorado canyon, Willow Springs district and along highways. There were "acres and acres of lupine, desert poppies and California poppies, lots of desert mallow, golden hills and evening primrose." The heavy blooming of beavertail cactus was above average. The budding cholla cactus was expected to be in bloom soon after May 1.

The Desert Trading Post

*Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—
Actually about one-half cent per thousand readers.*

MISCELLANEOUS

WANTED INFORMATION — About lava rock and flagstone. Wish to purchase wholesale for retail trade. A. H. Rich, 1443 West 84th Place, Los Angeles 44, Calif.

Large stock of petrified palm. Twenty tons of rock specimens. Navajo rugs, reservation hand hammered silver and baskets from many tribes. Many other handmade artifacts. Daniels Indian Trading Post, 401 West Foot-hill Blvd., Fontana, Calif.

DESERT TEA: In original form. Large bundle only \$1.00 complete with instructions for use. Desert Pets and antiques sold and exchanged. Graill Fuller's BorXpost Ranch, Daggett, Calif.

YOUR INNERMOST LONGINGS FILLED! Get "Spiritual Help For Your Everyday Problems"—25c. Booklists included. OUTSTANDING BOOK ASSOCIATION, Box 2501, Los Angeles.

GIFT BOOKS of the Southwest. For outstanding titles on the desert country—Travel, History, Desert Plants and Animals, Gems and Minerals, Indians, Juvenile—write Desert Crafts Shop, 636 State St., El Centro, Calif. Free catalog.

EMPLOYMENT

EMPLOYMENT WANTED by middle age couple without dependents, in college, museum, hospital, resort or anywhere where experiences of both including mineralogy, geology, archaeology, chemistry, bacteriology, X-ray technique including diffraction and spectrometry and medical fields, photography, photomicrography and stenography are partly or wholly essential. Experienced in expedition work in remote areas. Reasonable salary for employment of both in permanent positions. Reply Box L, c/o Desert Magazine.

ELDERLY GENTLEMAN, 59, well educated, dependable, sober, wants light out-of-door work, preferably gardening. Knowledge of plant culture, soil bacteriology, landscaping, bookkeeping. Address T.W.B., c/o Desert Magazine.

LIVESTOCK

KARAKULS. Producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

We sell Nationally Recognized Fur Producing Karakuls. Have permanent market for wool and furs. Attractive investment for rancher or city investor. James Yoakam, National Distributor, 1128 No. Hill Ave., Pasadena, California.

REAL ESTATE

FOR SALE: 6800 acre operating ranch, good location, good water, cottonwood timber on about 5 miles of dry creek. Some water holes, deer, antelope, lightly stocked with good cattle. \$36,500 cash. A. D. Hudson, Gillette, Wyoming.

FOR SALE: By owner, 40 beautiful level acres near Palm Springs-Indio highway, in heart of big activity. 3475 Elmwood Drive, Riverside, or phone 5213-W.

FOR SALE: Home or cabin site. One acre. \$175.00. Sunny Valley, heart of motherlode area, California. Three miles from county seat. 208 feet frontage, macadam road, spring water with reservoir. Trout stream across road. Shade trees. Deer country. All land in vicinity gold bearing. Location ideal for country store. R. H. McKay, 1604 Long Ave., Fort Worth 7, Texas.

WISH TO SELL: Old established desert business, operating mill house, and all equipment to continue and expand. All year employment. Mojave Desert tea. Rancho Del Remolino,

GEM VILLAGE: The Rockhound Colony. For information, also rocks and minerals, write to The Colorado Gem Co., Bayfield, Colo.

For Imperial Valley Farms—

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — CALIFORNIA

Aerial Gunners Hunt Coyotes . . .

ELY—Coyotes have been taking such a heavy toll of sheep throughout eastern Nevada that plans have been made to shoot the animals from planes. A contract has been signed with Nevada Aviation Co. for a plane, pilot and gunner, in an attempt to eradicate coyotes. State legislature recently enacted a law allowing the hunting of coyotes by plane.

Boulder Dam Contract Let . . .

BOULDER CITY—Contract to supply 70,000 barrels modified Portland cement for making improvements on tunnels and river channel at Boulder dam has been awarded Monolith Portland Cement company of Los Angeles, Secretary of Interior Harold L. Ickes has announced. The improvements will help maintain peak production at the world's largest hydroelectric plant.

Fishing in Humboldt river will last from May 1 to September 30 in most of the bordering counties.

NEW MEXICO

Veterans Want More Education . . .

ALBUQUERQUE — In response to a questionnaire mailed to Indian service men by John Evans, superintendent of the United Pueblo agency, he learned that most of them wanted to attend vocational schools under the GI bill of rights, so they could become auto mechanics, mechanical engineers and craftsmen in other fields. Their replies arrived from Palau islands, Germany, France, England, the Marianas, Italy and other battlefronts, written on everything from V-Mail to wrapping paper. While most specified a desire to return to an Indian school for further training, some were definitely opposed to that, one soldier in Germany writing, "I'll take my training in the same schools with other veterans beside whom I've lived and fought."

A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) One year's subscription (6 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid.

GHOST TOWN NEWS
BUENA PARK, CALIF.

Plan Navajo Weaving Industry . . .

GALLUP — Tests and experiments which may make the name "Navajo Tweeds" as important to textile world as Harris Tweeds, are being made at U. S. department of agriculture sheep laboratory at Fort Wingate. Miss Irene Emory, Santa Fe weaving consultant and instructor, is at laboratory working out patterns and designs for production of handwoven suit woollens and she will instruct Navajo girl weavers in new weaving processes. Laboratory was set up to breed into the old Navajo sheep the "quarter blood" fleece qualities of the Romney breed, and the body characteristics of the Corriedale of Australia and New Zealand, in effort to produce an animal able to survive desert ranges, produce heavy lambs and long wool which is most suitable for handweaving. Laboratory Director James O. Grandstaff, interested in expansion of Navajo weaving industry after the war, declared, "There are weavers among the Navajos equally as skilled as the hardy Scotsmen who produce the famed Harris Tweeds on hand looms in their homes. With the development of suitable fleeces and training in the use of new-type looms, the Navajos may someday be producing suiting which will be in demand for the production of men's and women's clothing around the world."

To Film New Mexico Story . . .

ALBUQUERQUE — It has been announced from Hollywood that Eugene Manlove Rhodes' *Pasó Por Aquí*, story of New Mexico, will be filmed in New Mexico this fall. Harry Sherman is producer, and William Brent, who spent his first 25 years on the New Mexico range, and his wife, have adapted the story for the screen.

UTAH

Mosquitos Being Dispossessed . . .

SALT LAKE CITY—If it bites you, it isn't a Salt Lake mosquito—at least that's what residents in this city will tell you, now that their mosquito abatement program is underway. Even those mosquitos that formerly inhabited the cemeteries are leaving since they no longer find water in flower containers on graves. Head of drive against mosquitos is Dr. Don M. Rees, University of Utah professor of zoology, who warns mosquitos that still hold real estate to sell out fast—or else.

Shearing Makes Sheep Shiver . . .

PRICE—Shearing of more than 100,000 head of sheep in Carbon and Emery counties was started late in April at Greener, Sunnyside Junction, Mounds, and other smaller corrals. At Mounds for the first time shearing was done by machine. Shearing by blade is preferable as it leaves some wool to protect animals during lambing season which immediately follows shearing time, but since blades are unavailable, machines were introduced this year.

Joseph Alma Freestone Everett, 62, internationally known Salt Lake City artist and winner of Logan award for sanity in art at San Francisco last December, died April 24.

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SANTA FE, NEW MEXICO

Mines and Mining . .

Los Angeles, California . . .

Federal agencies are not favorable toward the resumption of gold-mining immediately after V-E day, according to the statement of Representative Claire Engle of California. Reasons given by the federal officials are that there is still a critical need for men in the lead and copper mines, and that the resumption of gold-mining might draw workers from mines producing these much-needed ores.

Gallup, New Mexico . . .

Gallup American Coal company, recently shut down "for lack of markets" has been sold to a six-man syndicate. A. T. Hannett, Albuquerque lawyer and former New Mexico governor, said he had closed the transaction with New York representatives of the American Smelter and Kennecott Copper companies, which held stock in the mine. His associates in the venture, which will be incorporated as Gallup-Gamerco Coal Co., are S. P. Vidal of Albuquerque, U. S. Collector of Internal Revenue for New Mexico; P. J. Vidal, Gallup hardware dealer; Dominic Rollie, Gallup postmaster; J. W. Eichman, Gallup druggist; Dr. J. W. Hannett, Albuquerque.

Winnemucca, Nevada . . .

Shortage of labor and scarcity of repairs and supplies are blamed for the closing down of the Gatchell mine, one of Nevada's largest producers, the last of April. Since the government's ban on gold mining in 1942, the mine has been producing arsenic and tungsten, employing about 100 men and their families. It was indicated that the property would remain out of production until gold mining can be resumed, unless a critical need develops for arsenic.

Reno, Nevada . . .

Coastal shipyards and other industries are being combed for experienced miners to staff Nevada's lead, zinc and copper producers, according to Glenn E. Brockway, deputy regional director in charge of manpower. There is a national urgency for lead and copper, and with stockpiles low, miners are being encouraged to return to their prewar jobs to produce not only for wartime needs, but also for civilian demands which will follow the collapse of the war in Europe.

Washington, D. C. . . .

United States is on the way toward exhaustion of many of its important mineral reserves, according to the estimate of Elmer W. Pehrson, chief of the economics and statistics branch of the federal bureau of mines. Pehrson's figures, published in the April issue of *Mine and Metallurgy*, and based on national consumption from 1935 to 1939, estimates there is less than a five year reserve supply of antimony, tungsten, platinum, mercury, asbestos, manganese, chromite, nickel, tin, industrial diamonds, quartz crystals and flake graphite. The 5-to-25-year group includes zinc, petroleum, cadmium, gold, lead, silver, bauxite and vanadium. The 25-to-100-year bracket includes sulphur, natural gas, fluorspar and copper. Iron ore is estimated at 111 years, potash 117, anthracite 195, molybdenum 422, phosphate rock 805 and bituminous coal and lignite 4300 years.

Salt Lake City . . .

Three hundred native Puerto Ricans are scheduled to arrive here for work in the Utah Copper company's open pit in Bingham canyon. Last summer 200 of these workers arrived for a six-month contract, but most of these returned at the expiration of their time. Many of them are expected to come back again under the new agreement. The Puerto Ricans will be used mostly in the track department.

KEEN VISION . . .

will solve tomorrow's post-war problems

Electrical engineers, too, are getting set for the challenges of a new world. People everywhere—industries as well—are stirring themselves to make sure that there will be jobs to ease the employment problem after the war ends. Even the troops overseas are being considered . . . for immediate planning is the only way to insure post-war employment.

New electrical techniques are playing a tremendous part in the output of many forms of ammunition and equipment for our fighting men . . . so outstanding are these new advances that they are, even now, blazing new production trails for the manufacture of peacetime products.

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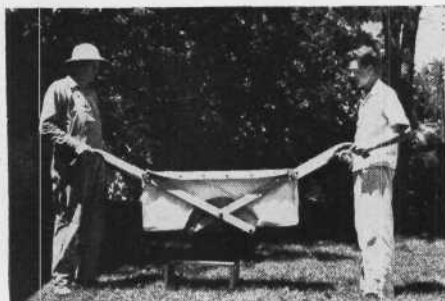
GEMS AND MINERALS

ARTHUR L. EATON, Editor

MAKES SIMPLE CARRY-ALL FOR PACKING IN ROCK

W. C. Bush, writing from Grand Junction, Colorado, describes a new carry-all (see illustration) he has devised for packing rock. Talking about the equipment, he says:

"One man can handle a load of 200 pounds on level ground or slight down grade, but steep grades and crossing washes requires two men. The handles are from a cultivator, and the wheel is rubber-tired — borrowed from my wheelbarrow. It is put together with bolts and can be taken apart readily. If anyone is interested in making one like it, I will be glad to furnish more specifications—just as one rockhound to another."



One man can carry 200 pounds

TURQUOISE MINERS ARE MARKETING POLISHED STONES

Frank Burnham, Louis Cirac, and Charles Joseph are working mining properties five miles from Frazier's wells, Nevada, and twelve miles north west of Tonopah, for the production of high quality turquoise. A clear, blue stone is produced by one mine and the highly prized spider web variety by another. Like most turquoise, some of this is found in thin veins difficult to work, and some as nuggets or kidneys.

The three partners work the mines as a source of ore to be sold to all customers, and also polish much of the material for sale by the carat. The polished stone output sometimes totals as much as 5000 to 6000 carats per day.

BASANITE OFTEN CONFUSED WITH BLACK OBSIDIAN

Many persons, even experienced collectors, err in the classification of basanite. Some dealers have advertised basanite for sale and delivered black jasper. There are certain distinct differences between black jasper and basanite. A comparison shows basanite to be much blacker and to have a velvety luster lacking in other black stones. Jasper is often somewhat brittle while basanite is infinitely tough. Even an experienced gem cutter notices this toughness at once and comments on it. Jasper chips easily while basanite seldom does. Also true basanite is rarely ever found in large pieces.

Well Known Collector Passes

Dr. D. H. Clark of Redlands, one of the most ardent and beloved members of Orange Belt mineralogical society, passed away March 29. Dr. Clark retired about 15 years ago because of ill health. Soon he became interested in the rock hobby which gave him a new lease on life. His wife has always been interested in pretty rocks and they made many trips into the California mountains and deserts and many states. Dr. and Mrs. Clark have been members of the Orange Belt mineralogical society since 1938. His collection consisted of many polished specimens especially large specimens of petrified woods of all kinds which he had collected himself. As a collector of iris agate he was known to many of his friends as the iris agate king. His fluorescent display was among the finest.

Industrial Uses of Cadmium

Dr. Eldred D. Wilson discussed origin of common minerals at April 15 meeting of Mineralogical Society of Arizona. Junior members put on an exhibit. At the second monthly meeting the group examined materials added to the society's collection since October, 1944. March program was based on mining and processing of asbestos.

Each Rockhound Record, official bulletin of the Arizona society, located in Phoenix, lists names of new members of this steadily growing club. April Record carries items on cadmium and petroleum. It states that cadmium is used in electroplating high speed bearings in planes, on slides for cockpit doors to insure non-stick operation; in delicately adjusted parts in the fuse mechanism of bombs and shells, and as a sensitizer of paper for the detection of poisonous gases.

Cadmium is a tin-like metal malleable and ductile, capable of a high polish. It occurs as a sulphide greenockite and sometimes in sphalerite and smithsonite. Most industrial cadmium is recovered as a by-product from the treatment of zinc ores. Sphalerite containing varying amounts of cadmium is found sparingly in Arizona.

Hot Springs Diamonds

Hot Springs Diamonds are not diamonds. They are supposed to be genuine Arkansas quartz crystals, but sometimes they turn out to be pure dee glass. Unfortunately, some souvenir dealers (not mineral dealers) sell a very high grade of glass as genuine quartz crystal or Hot Springs diamond.

Arkansas has the only genuine diamond mine in North America, which has produced some of the world's best stones. This mine has not operated for years, hence, Arkansas diamonds are very scarce and command very high prices.

Diamond Cave (Caverns), located near Jasper, Newton County, Arkansas, is often confused with the Arkansas Diamond Mine. This cave was so named on account of its sparkling calcite crystals. —Arkansas Mineral Bulletin

Coal in Carrizo Gorge

Several small specimens of bituminous coal have been found recently in Carrizo gorge in San Diego county, California. No large amounts nor deposits have been located, but a number of easily identified specimens have been located by prospectors.

GEMS & CRYSTALS

From World Wide Sources

The 18th edition of V. D. Hill's Gem and Crystal catalog has just come from the press. It lists faceted and cabochon gemstones, crystals — both singles and matrix, gold and silver specimens, meteorites, polished agates, petrified woods, books, etc.

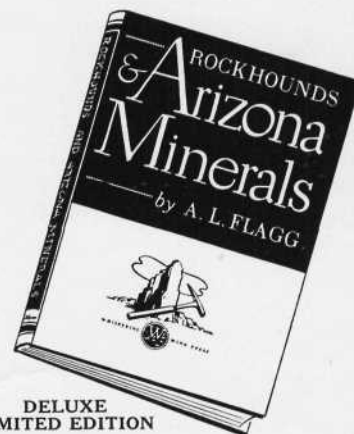
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Enlisted men and officers of Holtville Naval Air station are using their opportunities to search for rock and mineral specimens in one of the best fields in Southern California—the one nearest their station. They find many fossils, agates, jasper, basanite, geodes, gypsum, calcite, etc.

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FLUORESCENT Manganiferous Calcite, glows like live coals of fire under short wave lamp, two pounds \$1.50. **NEW CALCITE** (white) in lavender clay, fluoresces rich, deep, rose-pink under Ultra-Violet radiations. Phosphorescent. Choice. 1 pound \$1.25. Postpaid and Guaranteed. Thompson's Studio, 385 West Second St., Pomona, Calif.

YOUR FAVORITE CABOCHON MOUNTED IN EITHER STERLING OR 10K GOLD. Each piece designed to bring out the beauty of your stone. Ladies sterling rings from \$3.00, 10K gold from \$7.50, Pins, Brooches, Bracelets, etc., reasonable. Satisfaction guaranteed. Send for descriptive list of fine ladies and mens rings now in stock. Your correspondence invited. K. K. Brown, Star Route, Castle Rock, Washington.

Geodes from Colorado desert—beautiful varicolored, all with crystal lined cavities. Halves, polished or unpolished, or cut them yourself. Cavities guaranteed in uncut ones. Sizes from 10 inches down. Prices from \$25.00 down. Many other varieties of rocks and minerals. If it is found on the Colorado desert, we may have it. Money refunded if not as represented. Sales tax to Californians. Luxury tax on all polished articles. We pay postage. Desert Blossom Rocks, Box 356, Winterhaven, Calif.

ATTENTION ROCK CUTTERS! Assortment of 12 cabochon blanks \$1.50. Blanks of Chrysocolla 25c, Rhodonite 20c, Hemmotite 25c. Sterling silver earring backs, screw type \$3.00 per dozen. Cut and polished Star Sapphires, \$2.50 per carat. Stones range from 3½ to 7 carats. Please include luxury tax on cut stones and earring backs. De Marrionne and Charles, 420 No. La Cienega Blvd., Los Angeles 36, California.

FOR SALE—Gem Aquamarine, specimen beryl. Large star quartz pieces, 7 pound crystal of Brazil rutile, terminated, semi plume. Moss and sagenite agate. 6 inch sphere of variegated jasper, Montana sapphires and garnets up to ten carat gems uncut. The Desert Rats Nest, 2667 E. Colorado St., E. Pasadena, Calif.

50 ring stones, including genuine and synthetic—\$7.50. 12 genuine Opals or Cameos—\$2.75. Plus 20% tax. B. Lowe, Box 311, St. Louis 1, Mo.

Minerals, Gems, Coins, Bills, Old Glass, Books, Stamps, Fossils, Buttons, Dolls, Weapons, Miniatures, Indian Silver Rings and Bracelets. Also Mexican. Catalogue 5c. Cowboy Lemley, Las Cruces, New Mexico.

Send for our cutter's selection: 1 lb. Moss or Fern Agate, 1 lb. Mint Canyon Agates, 1 lb. colorful Jasper Agate, ½ lb. California Palm Wood, good quality, 1 Piece Carnelian. Postpaid \$2.50. **MINERAL MIRACLES**, 12103 Louise Ave., Compton, California.

Searles Lake Gem and Mineral society of Trona held a two-day field trip into Death Valley April 20-21. The rockhound caravan went over 5,000-foot Emigrant pass and then rolled down the grade to the tepid floor of the valley at Badwater, elevation 279.6 feet below sea level. Stops along the route included Wildrose station, Stovepipe well, Rhyolite, Beatty, Pahump, Furnace creek inn and Dante's View.

Dr. Austin F. Rogers of Stanford university, was scheduled to discuss jade at the May 17 meeting of the East Bay mineral society at Oakland.

Tri-State District Specimens, no trades. I have the finest in Galenas, Marcasites, Dolomites, Ruby Sphalerite, Calcites and specimens showing various associations of the above minerals. No price lists, write for prices and descriptions. Boodle Lane, Box 331, Galena, Kansas.

Mineral Sets—24 Colorful Minerals (identified) in 1x1 compartments—Postage paid, \$3.50. Prospector's Set of 50 Minerals (identified) in 1x1 compartments in cloth reinforced sturdy cartons, Postage paid \$5.75. Elliott Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

Good cutting material, Petrified Wood, Agate, Jasper, \$1.00 per lb. Special mixed lots \$4.00 for 5 lbs. Variscite specimen material \$1.00 per lb. and up. Geodes and Ribbon Rock, 5 lbs. for \$2.00. Please include postage. John L. James, Tonopah, Nevada.

Montana Moss Agates in the rough for gem cutting, \$1.00 per lb. plus postage. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

Antique Jewelry: 12 articles antique jewelry, brooches, rings, lockets, chains, etc. \$3.60. 12 assorted hatpins—\$3.00. 12 stickpins \$2.75. B. Lowe, Box 311, St. Louis 1, Mo.

Jewelry stones removed from rings, etc. 100 assorted \$2.40. B. Lowe, Box 311, St. Louis 1, Missouri.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Dioptase, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

Choice Palm Root—Full of eyes showing root and trunk structure. Very colorful. Sliced for Cabochons. 25 cents per square inch. Satisfaction guaranteed. GASKILL, 400 North Muscatel, San Gabriel, Calif.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalog 5c. Lemley Antique Store, Osborne, Kansas.

Wanted: to buy, sell and exchange specimens outstandingly rare and beautiful. Sam Parker, 2160 East Van Buren, Phoenix, Ariz.

AGATE JEWELRY AND OREGON AGATES—Ladies 10k gold rings, pointed or oval type, \$14.40 including excise tax. We make pendant necklaces, brooches, rings of several types. Sell plume and other agate by the slab. We guarantee satisfaction or will refund your money upon receipt of our merchandise. See that funds accompany your order. E. Lee Sigfrit, 211 Congress, Bend, Ore.

Some small pieces of bright green jasper found on the Oregon beaches provide a pleasant surprise for the gem cutter. When cut and polished as cabochons, they take a fine polish and in addition, show many little oval-shaped, lemon yellow spots that add much to the beauty of the gem.

Clarence R. Smith talked on wind, water and sand, a story of the Indiana dunes, at April 7 meeting of Marquette geologists association, Chicago, Ill. Visitors are always welcome at the meetings held in the Academy of Sciences, north Clark and Armitage streets.

April bulletin of Marquette geologists association carries an article by Stevens T. Norvell on granite, sand and jasper and one on the diamond by E. Goetz. Goetz states that up to 1920 the Arkansas diamond district near Murfreesboro has yielded about 300 stones, average weight 0.4 carat.

Samuel G. Gibben, director of applied lighting, Westinghouse electric and manufacturing company, talked on the influence of research in luminescent materials in the production of light at April meeting of New Jersey mineralogical society, Plainfield, N. J. Dr. Frederic Pough presented the Plainfield group with a beautiful specimen of multicolored tourmalines in quartz, from Brazil. It will be given as a door prize at the annual business meeting.

Gordon B. Oakeshott, instructor of earth sciences at Compton junior college, talked on economic minerals of the western San Gabriel mountains at April 17 dinner meeting of Pacific mineral society. The group as a whole visited the annual exhibit of Los Angeles lapidary society May 13.

Units of Rocky Mountain federation traveling collection have returned to their starting points. Success of the venture can be gauged by information acquired by each host group. Repetition of the experiment has not yet been decided upon. Six units were circulated, beginning their journey last October.

Sequoia bulletin reports that fossils, believed to be bones of a giant elephant, have recently been discovered in a deposit on the edge of Tulare lake.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Sun-scorched, thirst-haunted summer desert shure must have sum intangible grippin quality to make poets effuse about it or human beins an' even rock-houns ever want to see it again. For the rockhoun therz always the lure of specimens as well as just the huntin of rox, but sumtimz rockhouns wunders why enny one should want to be ¾ roasted alive. Maybe it's the space and the peace or just the ineffable beauty of color.

You'd imagine from readin rock-houn reports an' bulletins that the main object in winnin the war an endin the duration waz to get to go on field trips again. That really isn't true. Field trips is just sorta symbol indicatin democratic pre-rogatives of doin what yu pleaz when yu want to. No rockhound really likes to fight an kill, but he'll shure do his utmost to get a dirty job finished.

Dr. Paul Wedgewood gave an illustrated travelogue of Vallecito mountains, San Diego county, at April meeting of Orange Belt mineralogical society held in San Bernardino, California, junior college. 42 members and guests attended.

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VRECO DIAMOND SAWS . . . give you better performance . . . longer life . . . faster cutting.

6-in.	\$4.50	12-in.	\$ 8.75
8-in.	5.50	14-in.	11.00
10-in.	6.80	16-in.	13.75

Be sure to specify arbor hole size required. Postpaid.

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	80, 100, 120 & 180 grit	220 grit
4 x 1/2-in.	\$ 1.05	\$ 1.10
6 x 1-in.	2.40	2.60
8 x 1-in.	3.60	3.90
10 x 1-in.	5.00	5.30
10 x 1 1/2-in.	7.00	7.50
12 x 1-in.	6.90	7.50
12 x 1 1/2-in.	9.60	10.40
12 x 2-in.	12.30	13.30

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VRECO DRESSING BRICKS are an indispensable aid to keeping wheels true.

8"x2"x1" Dressing Brick \$.85

ABRASIVE GRAIN . . . Silicon-carbide grains in grit sizes 60, 80, 100, 120, 150, 180, 220, also F (240), FF (300), and FFF (400).

50c per lb. in single lb. lots
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FELT POLISH WHEELS—Spanish White Felt . . . made expressly for us by Byfield Felting Co. These wheels are the proper hardness for polishing gem stones and flat specimens.

6 x 1-in.	\$4.25	10 x 1-in.	\$11.00
8 x 1-in.	7.25	10 x 1 1/2-in.	14.90
10 x 2-in.	\$19.00		

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Width	Price per Ft.	No. Ft. per \$	Price per 150 ft. Roll	Roll Ship. Weight
2"	5c	24 ft.	\$ 4.70	3 lbs.
3"	7c	15 ft.	6.90	5 lbs.
8"	17c	7 ft.	18.00	12 lbs.
10"	22c	6 ft.	22.00	15 lbs.
12"	25c	5 ft.	26.50	20 lbs.

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Aleen Runkel gave an interesting talk on early history of Mexico at April 17 dinner meeting of Gem collectors club, Seattle, Washington. She described the life and habits of Mexican Indians, displaying examples of their hand weaving, silver work and pottery. Mrs. Arthur Foss decorated the speakers table with a basket of prize winning camellias. Meeting was held in chamber of commerce building.

Mrs. Gordon spoke on diamonds and Mr. Gordon on mercury at April 11 meeting of Long Beach, California mineralogical society held in the regular place 4104 Allin street. Tentative plans are already under way for the annual mineral show. A field trip is planned to Palos Verdes.

Cecil Searcy, secretary of Imperial Valley gem and mineral society, suffered serious injury recently when a piece of steel from his rock hammer pierced his eye causing loss of sight. Deepest sympathy is extended to him from all fellow rockhounds.

Fourth annual exhibit of Los Angeles lapidary society will be on display at Los Angeles county museum, Exposition park, for two months. Not only every person interested in lapidary arts, but every one who can should see these gems.

Dr. Thomas Clements of U. S. C. discussed gem stones and crown jewels of England at April 19 dinner meeting of Los Angeles mineralogical society held in Boos brothers cafeteria. Members brought specimens of the 50 minerals selected for study in the schools as well as many other specimens including a large topaz, smoky quartz and aquamarine. Mr. and Mrs. Hirsch displayed a beautiful opal cameo.

M. D. Taylor of Stockton lectured on the technique of faceting at March 23 meeting of Sacramento mineral society. He showed a moving picture of the process, and a faceting machine of his own devising. Mr. Taylor gave the society a faceted Brazilian citrine to be awarded as an attendance prize. E. E. Pook conducted mineral-of-the-month discussion on lithium, lightest of known metals, specific gravity 0.585. Specimens from which lithium is produced were on display.

Harry Vroman, camera pictorialist, was scheduled to conduct Los Angeles mineralogical society on a kodachrome armchair field trip to the desert at May 17 dinner meeting. Members are reminded to be on the lookout for specimens suitable for sale at the annual June auction.

Henry D. Hellmers spoke on the history of West End chemical company at April 18 meeting of Searles Lake gem and mineral society. He illustrated his talk with colemanite specimens from the company mine in Muddy mountains near Las Vegas, Nevada.

Searles Lake gem and mineral society, Trona, California, is about to realize its dream of a clubhouse. Priorities and cost are final obstacles. American potash and chemical corporation will finance the building and a portion of the cost will be repaid by the mineral club over a period of years. Jack Stahl, local architect, furnished plans for an Indian style building.

Bill Bluet entertained Sequoia mineral society with a group of moving pictures at April 3 meeting held in the high school, Parlier, California. Arch Addington, Fresno State college, promised a talk and kodachrome slides on the colorful southwest for May program. President Leon Dial was scheduled to talk on polishing jade.

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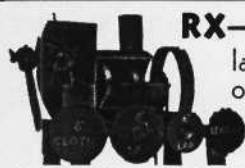
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Los Angeles lapidary society discussed polishing of soft stones in open forum conducted by Leland Quick at April 2 dinner meeting held at Royal Palms hotel. E. F. Montgomery explained cutting of cameos and intaglios. He showed shells and blanks from which cameos are made and the tools used.

Mr. and Mrs. Kilian Bensusan entertained the Mineralogical Society of Southern California, Pasadena, with a lecture and pictures on mining mica in Brazil for the United States government. The group meets in Pasadena public library 7:30 p.m. second Mondays. Members are donating specimens to make up two grab bags, 10c and 25c, for the June meeting. Annual Pasadena junior college field trip was planned for early May with Van Amringe leader.

Among the crystals usable in radios sets of both kinds are tourmaline, quartz, pyrite, galena, etc. Of these, quartz takes first place, not because it is better suited for the purpose, but because it is cheaper, much more common and also much easier to get. Beginners, however, often use galena or pyrite, as the smaller size crystals are often cheap and common.

Wm. J. Grieger has announced the purchase of the entire stock of the Mineral Exchange at Houston, Texas. The stones total about 10,000 pounds and include a large variety of the Patterson and Franklin collection, New Jersey minerals, Barringer Hill, and from Texas. Clarence L. Brock, owner of the Exchange is retiring after conducting his mineral business for 16 years.

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JACK THE ROCKHOUND

P. O. Box 86, Carbondale, Colo.

Gem Collectors Club, Inc., Seattle, Washington, held its business meeting and dinner March 20 at chamber of commerce building with 150 present. Following officers were elected: Walter L. Larson, president; Ralph U. Gustafson, vice-president; Mrs. J. Frank Murbach, secretary; Mrs. G. I. Hayward, treasurer. H. C. Ellsworth showed several sets of movies on Friday's ranch, Bryce, Zion and Grand canyons.

E. A. Montgomery talked on systems used for mining gold at February meeting of Desert gem and mineral society, Blythe, California. At March meeting plans were discussed for post war reconditioning of desert wells. A favorable report from county supervisors in this regard was announced. Also a resolution was passed to present a petition to Senator Dilworth to be introduced in the state legislature asking state highway aid in keeping desert roads open and in good repair. The group plans to present a geode valued at \$50.00 to the member who wins most points in collecting best mineral and gem specimens during a period of three months.

Theo. H. Kleeman of Elizabeth, Colorado, has constructed a seven-foot xylophone from petrified wood.

Julius Commode of Bagdad, Arizona, has found a large deposit of unusual opal, shot through with dendrite.

Stevens T. Norvell, Marquette geologists association, states that caverns are found in some localities and none in others with similar underlying rock because three conditions must be fulfilled if large caverns are to form: 1—Limestone of considerable thickness; 2—Hardwood forests; 3—Copious rainfall. Limestone is the only rock sufficiently soluble. Decaying leaves from the hardwoods furnish organic acid which is leached out by the rain and carried into the limestone which it gradually dissolves. When cracks and fissures become interconnected chambers with an outlet, running water moves in and by hydraulic force and abrasion enlarges the caverns.

Much Jasper—No Jade

Several reported finds of jade in Imperial and San Diego counties, California, have not been proven. Most of the material turns out to be some other material. Even the dark green color does not closely resemble true jade. Much of it is jasper and some even chlorite or serpentine. A firm, hard chlorite is fairly common in some parts of southwestern Arizona, and two small hills of it are known in the Quartzsite area.



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ANSWERS TO DESERT QUIZ

Questions are on page 26

- 1—Overland stage operation.
- 2—A craft for crossing the river.
- 3—A mythical character in Indian legends.
- 4—Cinnabar.
- 5—Salt beds in the bottom of the sea.
- 6—Tucson.
- 7—Raton pass.
- 8—Cooking food.
- 9—Utah.
- 10—A California-bound goldseeker.
- 11—Light blue.
- 12—Fossils.
- 13—Salt Lake City.
- 14—Lake Mead.
- 15—Barrel cactus.
- 16—Iron.
- 17—Flagstaff, Arizona.
- 18—Coronado.
- 19—National monument.
- 20—Indian commissioner.

AMATEUR GEM CUTTER

and polishing equipment. Leland Quick, who conducts this department, is former president of Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, Calif.

By LELANDE QUICK

When I was a boy I used to play soldier and sing a ditty about "Captain Dick of the Horse Marines." I never thought I'd hear from him but I have a letter that I give herewith. Its answer is in your hands and I know that the gem fraternity will lose no time in solving the Captain's problems. "Can you furnish plans and information for the establishment and operation of a lapidary setup for the use of patients at the Victorville Army Airfield Hospital? As part of the convalescent training program for ambulatory patients we are planning field trips in the Mojave and Colorado desert regions combined with mineral collecting and then lapidary work for those whose interest is sustained." There follow some personal compliments and then—"would it be asking too much for a list of locations where interesting minerals can be collected with some detailed instructions for getting there so that we can take small groups afield with a reasonable assurance that they will not return empty handed?"

Now the average rockhound would sooner part with his mother-in-law than reveal a location but surely you will tell these boys where to go. They have paid the price of victory and are attempting the recovery of their health in our deserts. I have told the Captain what to do about the lapidary setup. Will you tell him about locations? Don't reveal them to me; write direct to Captain W. B. Dick, V.A.A.F. Hospital, Victorville, California—and send the boys a few pounds of those surplus rocks you have in the backyard.

"Old Buck" has written me a long and interesting letter. He has taken the advice I gave in March DESERT about jade polishing, added other advice gathered here and there, and then used his own method with great success. Buck says, "Cut out a circle of one inch pine about 8 inches in diameter with a jig saw. Get 15 cents worth of sheepskin with the wool shaved and tack this on the wheel the way sheep wore it—outside out. I run the disk at 1760 or motor speed and give it a good wetting each time before applying tin oxide. I brush a little paste on the stone and put on a reasonably hard pressure until the paste begins to dry out. If I haven't a suitable polish by this time I wet her up again. Jade does not like too much heat."

"Now before the jade goes to the buffer there is a treatment I give it that goes a long way toward getting a good polish. I use a new cloth, 220 grit to start, nice and sharp, and I put on a very light pressure to shave off the scratches without too much friction. Then after washing in running water to get every iota of 220 grain off the stone she goes to a new 320. If my glass eye shows the scratches all gone, or very fine and hair-like, she is ready for the sheepskin buff after another washing. I find that the tiny scratches that it takes a reading glass to see disappear under the buffing process. Some of the lighter jade seems to have tiny pits that come to the surface in sanding but even these seem to fill up and I turn out very nice stones with this light touch on a sharp sander followed by a very wet sheepskin buff with tin oxide." That sounds like good advice, Buck—but I'll bet you do agates the same way, huh? "Old Buck" is Leon Dial of Dinuba, California, president of the Sequoia Mineral society.

Two things have occurred during the past month that have given me pardonable satisfaction. *Guilds*, the trade newspaper that goes to

practically every jeweler in the country, has reprinted my comments in DESERT for February, 1945, relating to the promotion of better feeling between jewelers and amateur gem cutters and my discussion of the functions of the American Gem Society and the Gemological Institute. At last the amateurs have presented their case widely to the profession and a better understanding should result.

In August, 1944, DESERT, I became a little testy over the lackadaisical attitude of our western museums with regard to the scarcity of good displays of gem and mineral specimens in a section of the world about as rich as any and richer than the rest of America. I decried that in one museum Charlie Chaplin's shoes and Lon Chaney's teeth were well displayed but that the few gems were tucked away in the darkest corner.

The largest museum in the West has decided to do something about it. The Museum of History, Science and Art at Los Angeles is procuring a curator of gems and minerals to attempt to build a section comparable to those of the eastern institutions. Roland McKinney, director of the museum, extended an invitation to 25 men representing the schools and colleges of Los Angeles county and the mineralogical and lapidary societies to discuss a program for the development of the museum's section on gems and minerals. This group then was appointed as a permanent advisory committee under the chairmanship of Dr. Chester Stock, professor of paleontology at the California Institute of Technology and senior curator of the earth sciences of the museum. Dr. Stock appointed an executive or "steering" committee to advise on policies and problems.

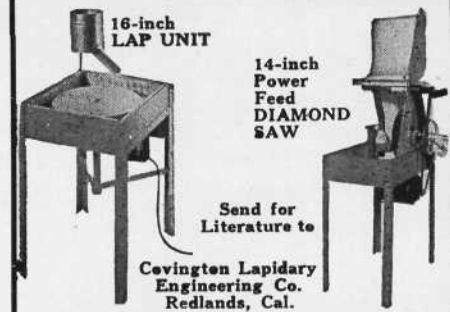
Members of this committee are Ernest Chapman, for many years president of the California Federation of Mineralogical Societies; Dr. Thomas Clements, professor of mineralogy at the University of Southern California; Dr. Robert W. Webb, professor of mineralogy at the University of California at Los Angeles; Richard R. F. Lehman, president of the Los Angeles Mineralogical society, who will act as secretary—and myself.

For many years—too many—fine mineral and gem specimens that have come from the great mines of the Southwest have found their way to eastern museums. As collectors passed on, their collections were auctioned or bequeathed to the eastern institutions so that the western museums received the culls and most of those are only loaned. Mr. McKinney's vision cannot help but promote revised thinking by those who have fine gem and mineral collections and who wonder what will become of them in the future. If you possess such treasures that you would like the public to enjoy long long after you are gone you could do nothing better with them than to see that the Los Angeles Museum gets them. Or you could loan them for a while.

As I have said before, it takes a Croesus to leave gem collections like the Morgan collection in New York, the Roebling collection in Washington, and the Field collection in Chicago, but if adequate housing and display are supplied under competent care, who knows what the Los Angeles Museum might display a generation from now? This should be great news indeed to Californians because there are more mineralogical societies here than in any other state and it is the only state that has lapidary societies. All of these societies should be the first to get in back of this far-sighted program. Have you suggestions?

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting

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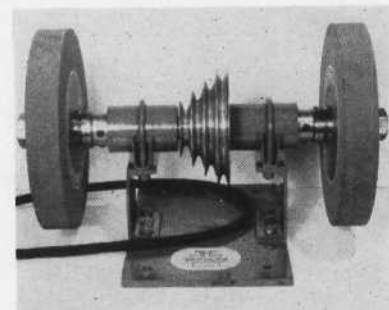


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By RANDALL HENDERSON

ON A seldom-traveled trail in a remote canyon of the Anza Desert state park I met an elderly cowman. He was riding his range—or what had been his range—looking for strays.

In a region as rugged and inaccessible as this, it is a rare occurrence to meet another human—and we stopped for a chat. We talked about the new highway which, according to rumor, is to be routed through this area. We mentioned the fencing of the waterholes, and of the increasing influx of campers and vacationists who would be coming to this park in the postwar period.

He faced the prospect of being crowded off of much of his range—a range where cattlemen have run their herds without interference for generations. He is being fenced in—or rather, out.

He was not bitter. But obviously, he was not happy over the outlook. And one could not blame him for that. He had been a cattleman all his life—and the loss of the range which is his source of livelihood is a very serious matter to him and his family.

It would be easy to arouse a great deal of public sentiment in his behalf—and in behalf of thousands of other cattlemen in the West who have seen their ranges fenced off for farming, for industry and recreation. The American Indian went through all that at an earlier period. The cattleman and the miner took the Indian's hunting grounds and reduced him to the status of ward of the federal government. And in turn the cowman and prospector are being crowded and fenced by farmers and community builders and recreation-seekers.

Such is the way of progress. The real tragedy of all this is not the displacement of the older and more primitive pursuits, but in the fact that humans find it so painful to readjust themselves to that which is new and different. Change is the essence of the Great Plan of the universe. But we humans cling to the traditional. We are timid, and reluctant to venture beyond the ground we know.

I am not talking about changes in the tangible things about us. We go for new styles in dress, new devices of entertainment, and new gadgets in the home and shop. But these are mere superficial factors in our existence. The changes which we resist so stubbornly are in the realm of our thinking—involving the economic and social and political problems of our community life. And after all, these are the important things—because the degree of enlightenment with which we approach them determines whether we are to have war or peace, want or plenty, subservience or freedom.

All of which does not solve the immediate problem of the cowman I met along the trail. Readjustment will not be easy for

him. If, after this war is over, we would tackle the job of sweeping some of the cobwebs out of our great American school system, and teaching youngsters how to live and think, perhaps we could make it easier for his sons and grandsons.

* * *

Here at the Desert Magazine office we get many letters from people who want to find "a quiet spot on the desert for rest and relaxation." They feel that they could be doing their jobs better if they could take a few days' recess from the high pressure work and responsibility they have been carrying since 1941.

It is a good idea. A little cabin on the desert is fine tonic for ragged nerves and high blood pressure. But the Desert staff has not been able to give much help in finding vacant quarters. The desert country has played an important role as a training ground for the armed forces—the navy as well as the army and marines. The housing problem here is no less critical than in the cities. Every shack that is habitable is occupied.

Of course the desert is still wide open for campers. But the chores of camp-life have their drawbacks to those not accustomed to this way of living. I wish I could suggest a solution, but I can see little prospect for improvement while the war is in progress.

* * *

On display in the Desert office is an 18 "karrot" gold nugget from Lost Pegleg Mine No. 999. We are indebted to Harry Oliver—No. 1 clown of the desert country—for this gorgeous hunk of "precious metal."

The nugget looks and feels suspiciously like the replica of an ordinary bunch of carrots (18 of them) done in plaster paris and then lacquered with a few coats of that gold paint you buy in the store.

This is the same Harry Oliver who manufactured several scores of wooden peglegs, finished them with sort of a weathered appearance, and then planted them in various caves and "coyote" holes in the Southern California desert. That was many years ago, and the desert prospectors still are bringing in proof that Pegleg Smith carelessly left his artificial leg behind when he prospected this country and discovered the famous Pegleg mine.

Oliver began his desert career as a homesteader in Borrego valley, did a tour of duty as art director at Hollywood, and returned to the desert to "live like a human being." He now has a little roadside stand at Thousand Palms junction on Highways 60-70-99.

He wears a set of whiskers like Steve Ragsdale's. In fact the resemblance is so great that a Coachella valley newspaper once ran a picture of Steve to illustrate a story about Harry. Strange things happen on the desert when Harry Oliver is on the prowl.



WOMAN WRITES LATEST EMIGRANT TRAIL BOOK

Retracing old emigrant trails across plains, mountains and deserts, through sand, rocks and sagebrush, following dim tracks of pioneer wagons not traveled since the Gold Rush, is a man-sized undertaking. But even this field of historical research lately has been invaded by women. Not long ago Dr. Margaret Long published *In the Shadow of the Arrow*, a story of the Death Valley trail. Later Irene Paden wrote *In the Wake of the Prairie Schooner*, a record of her findings along old emigrant roads.

Now comes another new volume, **THE OLD CALIFORNIA TRAIL**, by Julia Cooley Altrocchi, to round out the series, leaving little for mere man to do in a field where the going is always tough. This latest book is one which should have been written long ago. The Santa Fe and Oregon trails often have been retraced and described, while the California trail, which carried more westbound traffic than all others combined, has been sadly neglected. Here passed Joe Walker and his trappers, John Bidwell and his footsore emigrants, J. B. Chiles' wagons, first on the Humboldt, Old Greenwood with the first wagons to reach California, Fremont and Kit Carson, the tragic Donner party, the great Gold Rush, and hordes of emigrants seeking homes in the land of gold.

In Mrs. Altrocchi this old highway has a competent chronicler who is not chair-bound. Having re-explored the route over a period of years, guided by emigrant journals, she not only describes it as seen by pioneers nearly a century ago, but as it is today, almost forgotten and in many places untrodden since covered wagon days. Its complete historical background is enlivened with personal experiences and interviews with old-timers and desert rats contacted along the old highway, making the book an entertaining human document. Having previously written several books, including a volume of verse (*Snow Covered Wagons*), her style is smooth and pleasing.

Illustrated with 50 photos taken by the author in forgotten corners of the desert. Endmaps, sketches. Biblio., index, 327 pp. Caxton Printers, Caldwell, Idaho, April 1945. \$4.00.

—CHARLES KELLY

REPORT SHOWS FOOD VALUE OF JOSHUA TREE SEED

Seeds of Joshua tree have approximately the same food value as wheat bran and the "seeds and seed meal are not at all disagreeable when eaten raw by humans," according to the report of Carl B. Wolf of Rancho Santa Ana Botanic Garden in a monograph recently published under the title, **CALIFORNIA WILD TREE CROPS**.

The booklet covers the utilization of three of California's native seed crops—Joshua, Oak and California Buckeye. Summing up his findings on Joshua, Wolf's laboratory tests show that the seed contains 34 per cent of edible oil and a fair amount of protein, and that the pods are a fair feed material approximating dried orange peel in analysis.

The oil, he states, "appears to be a fine quality light oil, pleasant in taste and with characteristics which might prove to warrant its usage for even more important purposes than merely as another edible oil."

A ton of seed as harvested from the trees produces approximately 1000 pounds of pod meal, 300 pounds of oil and 700 pounds of seed meal having a market value based on equivalent products at current prices, of \$74.87, the author reports.

—R.H.

NOVEL TELLS ROMANCE OF CORTEZ AND DONNA MARINA

The history of Cortez and his adventures is told in all its color and vividness by Elizabeth Cannon Porter in her book, **CORTEZ THE CONQUEROR**. The reader follows the small expeditionary force from the landing on the shores of Mexico, through the bloody battles and hardships that the Spaniards experienced in trying to conquer the proud Indians.

Woven into this story of priceless Indian treasures and furious battles is the romance of Cortez and Donna Marina, the Aztec interpreter who was instrumental in aiding the Spaniards in their conquest.

For those who enjoy historical novels, the book will be an interesting one. In fact, it is so rich in historical detail that it sometimes gives the impression of overshadowing the exciting personal plot built about Cortez and Marina.

Published by Dorrance & Company, 1944. Endmaps. 415 pp. \$2.50.

—DOROTHY GREENWOOD

MEDICINE OPENS DOOR TO LITTLE KNOWN NAVAJO LIFE

In the most penetrating book yet written on the Navajo, the **NAVAHO DOOR** digs deep into the medical and psychiatric life of the Diné. With great skill the authors have wrought together material most difficult to obtain and have presented it in a readable and interesting text.

Entering Navajoland under the auspices of the Social Science Research Council, Lieut. Alexander H. Leighton M. C. USNR and his wife Dr. Dorothea C. Leighton M. D. did their field work in Navajo communities rather than in the agency offices at Window Rock. The result is a book untinged by an apologetic or controversial tone, but simply is a candid description of Navajo life as it is today.

While the first few chapters on history and sociology are not new to students of Navajo life, the Leightons' slant is refreshing. The chapter on the Indian Service is to date the most objective treatment of the much debated policy of John Collier, former commissioner of Indian Affairs.

Regarding Navajo Service they sum up: "The plans and goals of the Indian Service are excellent, and one cannot help being moved with admiration, but it must be remembered that although much has been accomplished a great deal is still in the form of intent rather than realization."

The chapters dealing with Navajo medical concepts and the reaction to white man's medicine are the highlights of the book. Utilizing case-history methods the Leightons have been able to bring out exactly what the Navajo thinks about these things—a viewpoint which in the past has been almost ignored.

The **NAVAHO DOOR** is by far the best semi-scientific book yet published on the contemporary Navajo. It is an introduction to Navajo life which should be required reading for all Indian Service employees. Most pleasing to the reviewer is the erasure of the painted and bedecked Indian forever dancing under turquoise skies, and the presentation of old John Navajo as he really lives and breathes.

Harvard University Press, Cambridge, Mass., 1944. Map. 34 illus. 145 pages. \$4.00.

—RICHARD VAN VALKENBURGH

SILVER BRIDLE ORNAMENTS DEPICTED IN BULLETIN

Some of the best examples of Indian silverwork are to be found in horse trappings, especially that part of the bridle known as the headstall. Laboratory of Anthropology, Santa Fe, recently published Bulletin No. 17 in which 12 examples from the laboratory's fine collection of silver ornaments are reproduced in page halftones, with descriptive text. **INDIAN SILVERWORK OF THE SOUTHWEST**—BRIDLES, H. P. Mera and Stanley A. Stubbs. Art-paper bound. 75c.

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 pictured in amusing caricature showing the important
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